American Gas Association MONTHLY

War Economy and Gas Industry

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Electrical Bonding of Pipe

•

Gas Heating—Then and Now

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The American Cooking Picture

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1941's Challenge to Salesmen

March 1941

VOLUME XXIII NUMBER 3

"MY NEW GAS RANGE HAS SO MANY TIME-SAVING FEATURES!"

"YOU GET MORE FLAVORFUL MEATS WITH THE FAST SEARING BROILERS!"

"THE NEW OVENS ARE UNBELIEVABLY ACCURATE!"

"ALL BURNERS DO MORE COOKING WITH LESS FUEL!"

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*This ratio is approximate for the country as a whole. It is actually much higher in communities enjoying gas utility service. It applies to all ranges using automatically delivered fuel.

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AMERICAN GAS ASSOCIATION

LET GAS DO THE 4 BIG JOBS—COOKING • WATER HEATING • REFRIGERATION • HOUSE HEATING

American Gas Association MONTHLY

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In the forthright declaration in this issue, President Strickler makes a strong appeal to the gas industry to keep its feet on the ground even though its head is surrounded by clouds of war. He calls for calm and courageous thinking and gives a straight-forward analysis of the problems facing the gas industry—and the nation. . . . Shortly after the last A. G. A. Convention, Dr. Scott Ewing reported on a new type of bond for cathodic protection of pipe lines. It remained for Mr. Olson to present the first valuable account of practical experience with these bonds—and the results are interesting. . . . Gas heating has jumped quite a few hurdles but now that it's on the home stretch we can look back with equanimity to some of the first jobs. Mr. Halloran relates interesting experiences in the early campaigns and adds some pertinent present-day observations as well. . . . Ed. Martin, enterprising A. G. A. statistician, has squared off with electric cookery again. This time it's a nationwide, state-by-state comparison of the gas and electric market with a close-up analysis of a typical section of the country. Naturally, gas comes out on top without much of a struggle.

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A new 12-million-cubic-foot gas holder of the Citizens Gas and Coke Utility nears completion in Indianapolis. This photograph was taken in January when the holder was 220 feet high, with another 160 feet to go.

American Gas Association MONTHLY

JAMES M. BEALL, *Editor*

WAR ECONOMY
. . . . A Challenge to the Industry of Tomorrow

By THOMAS J. STRICKLER

President, American Gas Association

IT is unfortunate that the present turbulent condition of world affairs makes it necessary for me to comment on matters of very great national importance to all of us, rather than to devote my talk to a discussion of subjects of a purely gas industry interest which would normally be the case. I feel that I would be side-stepping the obligations of my office if I did not use this occasion and perhaps others to follow, to state some things that require our matured and serious consideration in these extraordinary times.

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First, as an introduction to what is to follow, let me make this declaration. I take issue with those who claim that America is today facing a crisis. I don't like the word. It smacks too much of a spirit of defeatism. America does not face a crisis. It faces a challenge. It may take all that we have to meet that challenge, but we shall do it successfully and shall be rewarded accordingly when peace finally comes. The time is here and now when clear thinking, good judgment, a healthy mental outlook, wise and courageous leadership, shrewd management, sound patriotism and hard work are the answers, and the only answers, to the special problems that face us as members of the gas industry and as citizens of the United States. Let us arm ourselves with such weapons and we need not fear the future.

Much against our will we find ourselves transformed from a nation which desires peace to one which must exert its best efforts to prepare to defend itself. For months on end national defense has been our most discussed topic, and it will continue to be even more so in the months ahead.

As a free and united people we are committed to the preservation of our democratic form of government. We have decided that to preserve our way of life we must be prepared to defend it. The nation is unanimous in this commitment. We do not know at this moment all that may be required of us as citizens, but we may be sure that we are engaged in a cause to which all must contribute materially and spiritually, directly or indirectly. The burdens that must be borne will be numerous and they will be heavy. They will fall on all alike, on big business and little business, and also on the individual in proportion to his means and his ability. Each must be willing to do his share, to carry his part of the load.

So great are the demands that our country's vast industrial machine is being strained, and it must still take on added demands as the necessity for speed becomes more and more important. Already the government has found it necessary to underwrite plant expansion, set up reserves of strategic and critical materials, aid in the financing of preparedness contracts and to do many things to prime the productive pump for our national defense.

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Industry is responding, and that includes the gas industry. The picture is so complicated, however, and it changes so rapidly that none of us can foretell with certainty how great the effort will have to be before this new year has run its course. Jesse H. Jones, Secretary of Commerce, puts it this way:

"It may become necessary for us to do in one day what we ordinarily would do in three or four. We may be forced to devote all of our energies to what is now only a part-time undertaking. When that time comes, no segment of government or industry, no part of our citizenry will be able to give less than a full measure. Every citizen will then be called upon for the service he is best able to render."

The full impact of the government's tremendous spending

Presented before Southern Gas Association Convention and Southern-Southwestern Regional Gas Sales Conference, Dallas, Texas, February 12, 1941.

program has not yet been felt by American business Many lines of business will be stimulated to capacity production. Millions of men are being put back to work and more will be employed later. The steel industry, makers of tools and dies, shipyards and automotive and aviation factories can expect activity that will surpass any previous year in their history. Over the near-term future, companies which are financially sound and well-managed need have no apprehension. The gas utility business clearly comes within this definition.

Right now new markets are being created. There will be an increase in the real wealth of the country in new houses and structures. There will be an increase in the skill of American workmen, much of which was arrested during the period of depression. This rehabilitation of labor will stimulate desires for goods of all types. The increased volume of business will expand national income and also tax revenues available to the government.

Non-Productive Prosperity

According to the latest government statistics, our national income for 1940 went to nearly 75 billion dollars from a low of 40 billion dollars in 1932. We enter 1941, therefore, with a certain degree of prosperity beckoning to us. We must keep in mind, however, that most of our gains will come from the production of engines of destruction and not from an increased supply and use of productive goods. Rearmament is not one of the basic and therefore durable industries of the country. Economically, it results in a net loss to our society, and we must eventually pay for it.

Also, we must not forget that there is going to be a very great money cost associated with this vast defense program. Congress has already authorized more than 17 billion dollars for preparedness, and more will be needed, we hear. These great sums must come from higher taxes and from borrowings against the future incomes of the American people. Everyone will be called upon to pay his share.

In the days that lie immediately ahead some companies may have to adjust all or part of their facilities for manufacturing materials for the government. Other companies, and here is where the gas industry comes in for mention, will play no less a part in our national defense if they take a more aggressive stand for the marketing of their products. It will be their function to keep up or increase the flow of consumer goods and services so necessary to the prosperity, health, happiness and morale of our people. This flow of consumer goods and services is, after all, the life blood of this nation. Under normal conditions the principal concern of business is to maintain and develop established markets and channels of distribution. It is hoped that this policy will remain a dominant factor in business under the national defense program, even though normal markets and distribution methods may undergo some temporary dislocations.

National Defense Plans National Economy

Much depends on the action to be taken by Congress. It will have to decide which of two roads it is going to take. In other words, it will have the choice of subordinating all that it does —or intends to do—to national defense or—preparing for national defense and at the same time safeguarding and strengthening our national economy. The two policies are quite different. One would take into account only the emergency we face. The other would also take into account the ordinary, day-to-day tasks we have to do. Congress can put the need for defense above all other considerations, and make it a first claim upon any and all resources that may be needed to accomplish that purpose, or it can regard national defense as part of the bigger job of developing and preserving a strong and vigorous nation.

As long as the war lasts we shall probably be confronted with emergencies of one kind or another which will put a strain upon our resources. This is recognized by the industries themselves without exception. Defense orders have been given the right of way in the order of need. Commercial airlines, for example, have voluntarily curtailed plans for expansion to speed production of combat planes.

But experience tells us that the war will not last forever and when it is over we in America as well as others will face the colossal task of reconstruction which will test our resourcefulness no less than national defense. Barriers must be leveled. The debris of battle must be cleared away. Trade must be revived. In view of this inevitable development representatives of business are asking this question: Can we afford to marshal all of our resources to hold off the threat of existing war only to find ourselves unarmed for the economic conflict that will surely follow? This question, it is believed, will stand back of nearly every proposal that may be made to Congress.

And now let us consider the effect all of this is likely to have on the gas industry in the immediate future. In the first place, no industry is more vitally important in a program of national defense than the business in which you and I are engaged. Therefore, let us not underestimate the big part that gas fuel will play in the coming months. The basis of all war preparations is heat, and no other form of heat can equal gas fuel for its flexibility, ease of control and efficiency.

Our Double Obligation

Two tasks face us, and we dare not fail in meeting both of them adequately. One is the ability of our industry to assume the heavy industrial work of assisting in turning out the manifold implements of war. The other is to make sure that the service we render to millions of American homes will be maintained at a high rate of efficiency. In a time of emergency such as we are now witnessing the duty of sustaining the morale of the nation is one of surpassing importance. The two go hand in hand—national defense and a smoothly running economic machine. One job cannot be done well without the other. Therein lies our double obligation.

We face a period of adjustment in which there is bound to be some confusion and hesitancy of action. We shall hear more and more about rationing of raw and finished materials and of priorities. It doubtless will be a testing time for all of us. Some who are in executive position will adopt an attitude of watchful waiting. They will delay in making decisions which under more normal conditions would be made without hesitation. We will

doubtless see some unjustified and needless exhibitions of fear and hysteria. These are the symbols of mental paralysis. Let us be on our guard against them. They have no place in an industry such as ours.

Consider for a moment the record of progress made by the gas industry during the last year. It is one that merits congratulation. We ended 1940 with the largest number of customers ever connected to our mains—a gain of 481,000 new customers during the year. Also, more ranges were sold in 1940 than in any previous year in our history. Complete figures will be available later and they will show substantial increases in the sale of all domestic appliances—a splendid demonstration of the ability of our sales personnel to carry the fight successfully to competition. Revenues of the entire industry, both manufactured and natural, established a gain of 7.3% for 1940 over the preceding year. In every department of our business the statistics for 1940 make pleasant reading.

Gas in a War Economy

We enter upon the new year ideally fitted as a basic fuel-purveying industry to meet the vast industrial heating needs of factories and mills that are producing the thousands of parts for equipment and machines necessary in a period of war economy. In the hardening of small and intricate parts of machine guns to the final heat treatment of the largest guns, specially designed gas furnaces are speeding production on an ever increasing basis. In the navy yards some of the largest industrial furnaces ever built are annealing fully assembled gun turrets with gas. Equipment which has been developed for peacetime use during the last decade through cooperative research and engineering by the gas utilities and leading manufacturers under the sponsorship of the American Gas Association is rapidly being put to work to speed up production in war industries.

I was surprised to learn the other day that American industry and business used 55% more gas fuel during 1940 than during the boom period of 1929. That is something worth remembering. For 1941 it is estimated that the normal use of industrial and commercial gas will be at least 10% greater than 1940, and supplementing this will be the great quantities of gas fuel used for purely defense production.

Our domestic business is holding up splendidly, too. Sales of manufactured gas show an increase of 7.3% for 1940 over the preceding year. Sales of natural gas registered the pronounced upturn of 12.4%. We have every reason to be gratified with the progress we are making in both the domestic and the industrial and commercial fields. Since we are a key industry, there is every expectation that we will complete 1941 in a still better

Thomas J. Strickler, president of the American Gas Association, in a photograph taken shortly after his election. He is surrounded by flowers presented by 500 employees of his company in honor of the occasion

condition than we entered it, provided, of course, that we keep our feet on the ground and do not permit the uncertainties of the time to warp our judgment and divert our attention from the job we must do both in normal times and during emergencies.

Let us remember that each year millions of persons enter markets for the first time. This factor is of particular importance during a period of reemployment, such as we are enjoying at present, when additional millions of persons will be reentering a market which may have been closed to them during the past several years. An increase in family employment and better wages will be reflected directly in the increased use of aggressively promoted and advertised quality products, including the appliances through which our fuel is utilized. New homes will be built, others will be repaired, repainted and refurnished and food budgets will be increased as relief rolls are lessened and employment is substituted. Regardless of near-term uncertainties you may be sure that families will form opinions on what they want and the things they prefer.

As I have said previously we face a challenge. How shall we meet it? We dare not curtail our selling efforts, cut our advertising to the bone or permit our hard-won markets to be invaded by others who are waiting only for the signal to do so. This industry of ours is an old and rugged one. It has survived in its stride every panic and every war and every period of emergency. It has a time-tested record for stability that few other industries can match.

So, I say, it is of supreme importance that we plan calmly and courageously. Not for one moment should we sit back and allow the present course of extraordinary events to shape our destinies. Let us beware of mass hysteria and the temptation to succumb to it, even temporarily. Let us face the future with complete confidence in the nation, in ourselves and in our business. Finally, let us fight every effort that may be made to throw overboard the results of years of sound planning in favor of emotionally dictated decisions which seem expedient at the moment. Steer that kind of course and it will not only aid the gas industry but it will serve to accomplish that greater objective which is to keep America American.

Prominent U.G.I. Man Dies at 81

DAVID JUDKINS COLLINS, for almost 45 years a prominent figure in gas utility sales work in Philadelphia, died last month at his home in Swarthmore. He was nearly 81 years old.

His utility career started in 1885, with The United Gas Improvement Company, after graduation from the Eastburn Academy in Philadelphia. With the exception of a few years spent in the Engineering Department of the Omaha (Nebraska) Gas Company, he had remained continuously in the sales divisions of U.G.I., The U.G.I. Contracting Company, of which he was vice-president in charge of sales, and United Engineers & Constructors Inc. During those years until 1929, when he retired, he had gained a nation wide reputation in the gas industry for his work on the development and sale of U.G.I. gas apparatus.

Electrical Bonding . . . *of Pipe Line Couplings for Cathodic Protection*

By G. R. Olson

United Gas Pipe Line Company, Shreveport, La.

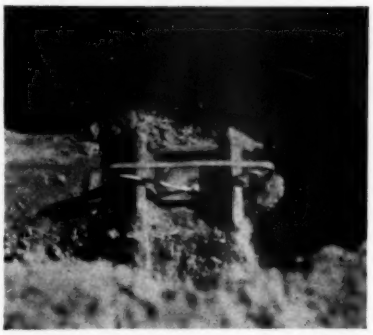
G. R. Olson

IT is now generally agreed that cathodic protection as a means of controlling corrosion of underground steel pipe lines has successfully passed the laboratory and experimental stage. We are, at present, passing through the next logical period in the development of the art, which is the large scale practical application on an economical competitive basis with other available means of protection. If this large scale application is to be generally successful, particularly on bare and poorly coated lines, it is necessary that the installation and operating costs on all items involved be reduced to the lowest practical point.

Defective Bonds Costly

One of the many problems involved in the application of cathodic protection to a coupled gas line is that of electrically bonding the couplings to provide a continuous low resistance metallic path in the pipe for the d-c return current. These bonds or shunts, in addition to being of sufficiently low resistance, must remain in good condition during the life of the pipe. Open or defective bonds are frequently very difficult to locate and always relatively expensive to repair. In addition, they reduce the effective spread of protection, increase the power requirements per unit length of pipe protected, and greatly accelerate corrosion at points on the pipe where the protective current shunts around the open coupling through the soil.

During the past years many methods of bonding have been tried by our company with varying degrees of success. The methods tried include mechanical connections, soldering, brazing, and welding with the electric arc, as well as oxy-acetylene torch. At the present time we have a total of about 70,000 coupling bonds or shunts installed on our system. A large percentage of these coupling shunts have been made by connecting a copper cable (solid or stranded) directly to the pipe by brazing with the oxy-acetylene torch and bronze welding rod.



New type of bond installed on one of the United Gas Pipe Line Company's 8" lines

This method might be considered fairly satisfactory since, to the best of our knowledge, only a small percentage of the total installed have failed to date. In a number of these cases leaks have developed under the brazed joint due to pinholes or cracks in the pipe. Other failures have been due to galvanic corrosion under the bronze, crystallization, and other causes which could not be readily determined. Under certain soil and coating conditions it has at times been found impossible from a practical standpoint to locate open shunts with known methods of test. In some such cases it was impractical to make shunt repairs until a leak in the pipe line had resulted. In nearly all cases it has been relatively expensive to locate and repair open bonds or shunts.

In more recent years a method has been used which involves brazing the copper cable to small steel coupons cut from junk pipe. This work is done in a central shop and the completed bond carried to the field where steel to steel joints are made between the coupons and the pipe either with the oxy-acetylene torch or the electric arc. This method results in a more dependable bond as the copper to steel joints are all carefully tested and inspected before being sent to the field. It is particularly important to us that a bond be used which can be attached to the pipe by means of the oxy-acetylene torch, as quite a number of our lines are located in inaccessible country where it is practically impossible to transport electric welding equipment.

Standardization Held Impractical

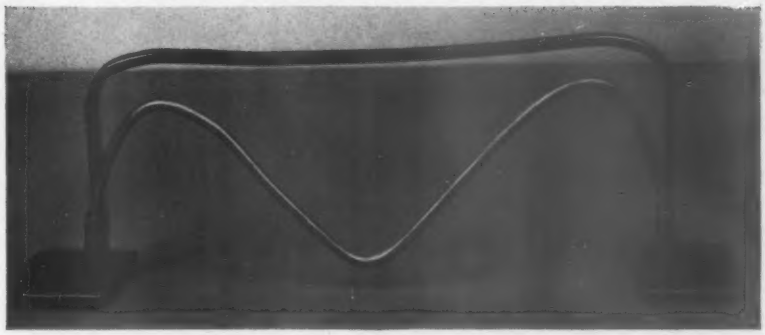
At the present time it seems impractical to standardize on the size of bond to be used in cathodic protection work. In my opinion it is advisable to determine the size or electrical conductivity of bond to use on each particular installation. Although the cost of the copper in a bond is relatively small compared with the total installation cost, a small amount of money saved on each of a large number of items will have a marked effect on the overall economics of any specific installation. Of course, the ideal theoretical bond should be of sufficiently low resistance to approach that of the pipe itself. However, with the pipe sizes usually used, this is seldom practical. In the case of large cathodic protection units as are frequently installed on poorly coated lines to protect several miles of pipe, a 4/0 copper equivalent bond or larger is frequently desirable. In such cases where couplings are spaced only 20 feet apart, a drop of even one millivolt per bond might be excessive and materially reduce the

spread of protection current as well as increase the total power requirements.

In some of our more recent installations on bare and poorly coated lines we have utilized up to 10 small rectifier units per mile of pipe line. With drainage points thus located only 500 to 600 feet apart we seldom have more than 6 or 7 amperes return current flowing in the pipe at any one point. In some cases a No. 6 copper equivalent bond is large enough from an electrical standpoint. However, from a mechanical point of view, we believe that the minimum sized bond used should not be less than No. 1 copper equivalent. This size copper conductor has ample mechanical strength to prevent serious damage due to hand tools used in ordinary maintenance work. It seems inadvisable and impractical to attempt to provide sufficient mechanical strength in the bonds to prevent damage from large machine driven equipment.

Bond installed on a Dresser coupling

We have, for some time, realized that except where spare time labor can be utilized, these coupling bonds or shunts could be made better and at a lower cost by the manufacturers of rail bonding equipment who have special machinery available for the purpose. During the past year we have attempted to correlate our bonding experience with that of other companies active in cathodic protection work and have solicited the assistance of the several rail bond manufacturers in the development of a more suitable bond for our work. Dr. Scott Ewing, A. G. A. Research Associate, and H. H. Febrey of the American Steel & Wire Company readily appreciated the value of this type of work and promptly initiated investigations which have resulted in the development of a bond which, in my opinion, shows promise of being a distinct advantage over anything tried to date.



A close-up view of the bond

This bond consists of a 3/16″ copper strip with 2″ x 2″ x ¼″ steel terminal plates which are curved to fit the curvature of the pipe. The steel-copper juncture is welded in the factory in such a manner as to give a uniformly good joint from an electrical as well as a mechanical standpoint. A 3/16″ steel wire is also welded to the terminals in parallel with the copper strip. This steel wire can be bent and welded to any part of the coupling such as the center ring and/or follower rings.

Advantages of New Bonds

Since all of our welders have had a great deal of experience in making steel to steel joints, it is believed that uniformly better results will be obtained with this bond. We have found that the factory-made bond is somewhat easier to install than the home-made bond previously used. During the current year we have installed several thousand of these new bonds and are very much pleased with the results to date. These bonds may also be used to good advantage in making connections to pipe lines for test leads and cross-bonding to foreign owned underground structures. It is hoped that other companies engaged in cathodic protection work will take an active interest in this new bond so that further improvements may be made during the coming year and quantity production may make it possible to further reduce the cost.

Our present practice is to use a cold service cement for coating and protecting the bond connections. It is appreciated that certain types of enamel would probably be more effective for this purpose. However, there is some question as to whether the additional labor and transportation costs for applying a hot coating will be justified.

We are very much interested in the "Silver Soldering" method of connected bonds which is described in Dr. Ewing's recent paper on "Electrical Bonding for Cathodic Protection of Pipe Lines."* If a satisfactory practical method can be developed for making this type of joint, the reduction in heat which it would be necessary to apply to the pipe, would be a decided advantage from a standpoint of safety while working on lines which cannot be taken out of service for the purpose. We hope to be able to conduct some experiments along this line during the current year.

* Available in printed pamphlet form from the American Gas Association, 420 Lexington Avenue, New York, N. Y.

Contemplate Helium Use for Barrage Balloons

ACCORDING to a Washington report, use of helium to fill barrage balloons for guarding American cities from air attack may be one of the reasons behind President Roosevelt's request to Congress for expanding production of the non-inflammable lifting gas.

Much of the proposed increased supply would go to the Navy for use in its fleet of non-rigid blimps, but military experts said that helium would be an ideal gas for barrage balloons. The Army is now testing such balloons at Fort Lewis, Wash.

The President asked Congress for $525,000 on Feb. 18 to increase the production capacity of America's only helium plant, at Amarillo, Tex., "as well as to investigate other sources of helium-bearing gas." The United States has a virtual world monopoly of helium.

1926
GAS HEATING—
A Revelation to Most Home Owners
1928
Gas Heating—
An Everlasting Satisfaction
1929
These HOMES
Enjoy
GAS HEATING
1925
Gas Heating—The Most Modern Convenience and Greatest Space Saver in the Home
The BASEMENT is used for entertaining when the home is heated with gas. Its ancient traditions of forbidding gloom are gone. Gas Heating drives out the spooky spirit of the dark, old-fashioned cellar . . . and what was once a necessary evil becomes a constant joy to all the family. It makes your basement as clean and inviting as any room in the house.
1927
HEATING YOUR HOME WITH GAS
NEW YORK POWER AND LIGHT
1934
COME ON IN, THE WEATHER'S FINE
1937
1940
Enjoy
HEALTH, LIBERTY AND PEACE OF MIND THE YEAR ROUND

The march of gas heating—as reflected in the company's promotional literature

Gas Heating—Then and Now

T. W. Halloran

By T. W. Halloran

New York Power and Light Corporation, Albany, N. Y.

DURING the past few years, some of the glamor of gas heating seems to have worn off. This is partly because its newness is gone, its mysteries have been uncovered, and its comforts and other advantages have become accepted.

One appeal, however, which gas heating has always had and still retains should not be overlooked. It is the challenge it offers to all salesmen who enjoy the thrill of completing a worthwhile and difficult sale. Gas heating properly and completely sold to a customer is an accomplishment—first, because it gives to the customer the finest heating service available—second, because it produces the tops in satisfied customers using gas service—and third, because it is difficult to sell the best as the best usually appears to cost the most. The salesman knows and his company knows that when gas heating goes in a home all other domestic gas services will continue to be satisfactory. Gas heating sells the customer on gas.

The writer's experience with gas heating dates back to 1924 before the attractive, jacketed gas boilers, before accepted gas warm air furnaces and improved conversion burners for use on manufactured gas and before forced warm air was known as winter air conditioning.

The first job we faced was the preliminary work of testing equipment and installations to learn something about the gas boiler equipment available and to help determine the type and level of rate at which gas heating might be sold. In the Spring of 1925 a rate was established. Equipment to be handled was decided upon, the choice of a method of estimating gas consumption was made, temperature records were compiled, advertising was laid out, and finally the writer was assigned the job of lone salesman to sell gas heating in a new territory on an average rate of about 80c per M.C.F. for 540 B.t.u. manufactured gas. The first year, 30 installations were made which included the installation of two of the first cast iron gas furnaces.

In 1926, a sales force had to be built with the assigned job of selling, installing and keeping 100 gas heating

installations in a territory with 38,000 meters. From a sales standpoint, this job was accomplished, but with it came many of the pains of sending out new salesmen without training in heating practices, particularly gas heating practices. Having about 130 new gas heating installations, the company decided to stop the aggressive sales plan for a period. You may have heard of the old peak load bogey. Anyhow, this change brought a new assignment, and the writer was given the opportunity during the next nine months of clearing up all the heating difficulties, equipment troubles, and cost complaints of the existing customers. This was a valuable experience and one never to be forgotten. In fact, it could be called a rare opportunity, a blessing much in disguise. The benefits derived from this experience were not thoroughly recognized until several years later. To anyone who has handled considerable gas heating, either then or later, this will be appreciated.

Experience and Adjustments

The gas heating engineer or salesman in contact with customers learned many things. He had to correct all manner of troubles in all kinds of heating systems because the customer expected better heating in his home when he paid more money for fuel. The engineer and salesman listened to all kinds of complaints and criticism of himself, his fellow salesmen and his company, due mostly to misunderstanding and to lack of knowledge on the part of salesmen of the need of doing a thorough and complete selling job. And he had to absorb unending discussion about the high cost of gas heating partly from those who could well afford it and were probably bragging, partly from those who did not want to be "suckers" and a small part from those who perhaps had had more strain on the pocketbook than it could stand.

The redeeming part was that nearly to a man the customers liked the service. It was obvious then that if their heating troubles could be ironed out and the cost reconciled, the result would be a group of satisfied heating customers. It was found that these things to a large extent could be accomplished.

Pendulum Swings to Gas

In the Fall of 1926, the pendulum had swung again and the company began to wonder why gas heating sales had been stopped. Again the writer was assigned the job of doing some selling, as well as getting some new salesmen trained—a hurry up job to cash in on the Fall selling season. From this point on through the next two years, a consistent and more intelligent sales program was carried out, putting into effect much of the knowledge learned from the early installations. During this time a few of the improved conversion burners were tried out.

In 1929, the company referred to, having been absorbed in the combining of a number of large and small properties, the writer was called upon to organize a sales force to produce 800 gas heating installations in 12 months in a system of widely separated gas properties in the throes of being built into a single large company. Most of these properties either had had little or no experience with gas heating or had had somewhat unfortunate experiences of one type or another. There were about 223,000 gas customers in all.

Being the only utility man with gas heating experience who was called upon to help plan the program with associates with wide experience in other types of selling, something had to be compromised. This is spoken of in a somewhat humorous vein now that it is over. The results of these compromises for the most part became evident early in the campaign and, therefore, were not allowed to become serious. They are mentioned here to bring out that there are trying features in the sale and service of gas heating that it is difficult for the inexperienced to appreciate, but easily recognized when encountered

The 800 sales were not reached although 550 sales were made. During the following winter it was necessary again to tighten the belt and use our time correcting heating system troubles, making heater and combustion adjustments, and building up the customers to the value of the service. It is worth mentioning, however, that the size of the property need have no terrors. As might be expected, the difficulties in a large property are no differ-

Gas heating and air conditioning advertisements which show the year-to-year selling approach

ent—they are just a multiple of those in a small property.

Due to further reorganization of properties, the number of gas customers served by our division of the company was reduced in 1930 from 223,000 to 115,000.

The heating program mentioned above continued to 1932 during which time it had produced about 675 jobs in the present reduced territory on an average rate of 80c using nearly all gas designed equipment and selling on a strictly cash basis.

Everyone remembers what happened in 1932. Our company began to lose its gas heating load also, and it was going fast. Everybody felt poor and anything that smacked of economy appealed.

Early in 1933, our average rate was reduced from 80c to about 57c, and the customers still on the lines decided to ride with us. In short, the rate reduction stopped the loss of existing customers.

At the time of the rate reduction, our existing gas heating customers had been reduced to about 550. At this point, a conversion rental sales program was introduced charging $4 per month for 30 months for the burners installed. With the aid of this conversion rental sales program, the number of heating customers was increased to 1,000 during the first six months of the sales campaign.

Danger of Over-Selling

Naturally, a volume conversion gas heating sales program with plenty of sales pressure has its headaches. The worst is overselling on the part of salesmen driven to make sales. Training plumbers quickly in the art of making proper conversion burner installations and service men in making the necessary adjustments and regulations for efficient and satisfactory operation is no small job while absorbing 450 heating customers over a period of a few months. However, it was found that when the men began to see what was required they handled the situation without much difficulty.

Since 1933 this rental sales program has been continued although not with the same aggressiveness nor the same results as during the first year. Our present installations number approximately 2,000.

It is necessary now for us to look at the position of gas heating and gas heating sales today. What is the position of the gas company and the gas heating salesman with respect to gas heating load building? To what place in the sales picture have our experience and the developments in heating systems and equipment brought us?

1. To build gas heating load quickly and well today, we need at least five selling tools:
   a. A thoroughly trained, well organized sales force.
   b. Adequate, well planned and well thought out advertising, including the air conditioning story.
   c. Loyal support from dealers, builders and architects. To obtain this, close contact and consistent effort by trained men are required.
   d. Trained heating engineers and service men to take care of the customers' needs properly and quickly.
   e. Approved equipment to meet all heating conditions.
2. Equipment development and careful study of general conditions have given us:
   a. The improvement in equipment designed and the addition of attractive boilers, burners, unit heaters, space heaters and winter air conditioning units give the salesman advantages that were not available ten and fifteen years ago. And then, there are the silent burners too—more than enough to outweigh the loss of the newness glamor.
   b. The reductions in heating rates, made by most companies during the past few years, help the fuel cost comparison side of the sales picture. Improvement in general conditions and increased confidence on the part of the buying public to which we must look forward, will also react favorably toward the sale of this fine heating service.

Gas heating has certainly lost some of its early glamor, but it has gained another type of glamor, and still stands way ahead of its nearest competitor. It is thoroughly tried now—a definitely established service, reliable in every way and far removed from its development and experimental days. The salesman goes out today confident of his equipment, confident of the service and more sure than ever that he has the best.

Gas heating—the customer and the salesman like it. Yes, and the company knows it now, and likes it too.

War Deals Blow to Installment Credit Operations

THE effect of war on installment credit operations in England has been more severe than anticipated, according to an informative article in the London *Economist*, August 17, 1940. In this article, which provides much food for thought in any country liable to become involved in a wartime economy, the Economist points out that "war has dealt a double blow to companies engaged in the finance of hire-purchase or installment credit operations."

On the one hand the volume of such transactions has fallen abruptly and on the other all such finance companies have, in varying measure, suffered deterioration in their outstanding claims. The article points to the moratorium on debts owed by persons evacuated from defense areas which covered rental-purchase agreements, and also to the relief from such payments of men serving in the armed forces.

No compensation had been offered to the companies for this one-sided moratorium at that time, though they continued to be responsible to their own creditors for the counterpart of the claims on which they were forbidden by the Defense Regulations and the Courts Act to sue or foreclose. Caught between these two millstones, the article states, rental-purchase finance companies have suffered a severe setback in their profits.

Prior to the war, the rental purchase finance industry had discounted its effect but apparently had greatly underestimated the economic dislocation of modern warfare. According to the Economist, "they took no account of the extent to which the normal organization of trade and finance in the domestic market would be revolutionized by the intrusion of the State in every department of economic activity. Nor did they foresee the degree to which supplies for the domestic market would be deliberately curtailed in order to maintain production for export . . . . the risk of air bombardment provided an immediate deterrent to the purchase of new homes and furniture, which had vied with motor car sales as the most important source of demand for hire-purchase facilities." The impact of war on the machinery of installment finance was most severe in the automobile industry, it was stated.

The beautiful skyline of Dallas, Texas, host city for the 1941 Natural Gas Convention

Natural Gas Convention to Highlight Industry's Vital Problems

THE thirty-sixth annual Natural Gas Convention of the American Gas Association meeting this year in Dallas, Texas, from May 5 to 7 promises to outdistance its own record not only in attendance but in the quality of the program to be presented.

Reservations received up to now indicate that more natural gas men will be in Dallas for this meeting than there were in Houston in 1940 and last year's convention delegates will remember the enthusiastic crowd which attended that meeting.

General sessions which are opening the 1941 convention will be distinguished by enlightening reports from executives within the industry and by inspiring addresses from leaders in other fields who, it is expected, will stress the part the natural gas industry can play in the defense program. More complete information on these speakers will be released at a later date.

Technical and Sales Clinics

Technical and sales programs continue this year to be entirely practical. The panel discussion is a conspicuous feature of all these programs, including the discussion of many problems which have arisen during the past few years. Visitors at this meeting will find that authorities in the industry have been called on to bring their experience to the solution of these problems.

The Transmission Conference offers such subjects as "Methods of Maintaining High Pipe Line Flow Efficiency," "Weather Prophecy," "Effect of Compressibility Factor on Horse Power Requirements in High Compression" and a further "Progress Report on Liquefaction and Regasification of Natural Gas."

The important panel discussion on this program is devoted to the study of "Modern Compressor Station Design."

The first Production Conference opens with a symposium on "Shooting and Acidizing of Wells." Problems peculiar to the Texas Panhandle and Hugoton Fields, to Louisiana and to the Eastern States will be examined and reported on by natural gas men from these producing areas.

On the second day there will be studies on the "Deposition of Salt in Producing Formations," "Completion of Gas Wells through Producing Pay to Obtain Data for Reserve Estimates, etc.," a paper on "Cathodic Protection as a Possible Means for Preventing Corrosion of Gas Well Casing," and a report from the Bureau of Mines on "Gas Well Delivery."

The Residential Gas Sales program focuses the spotlight on two features—a symposium on "Executive Responsibility for Sales from a Company Having Inside and Outside Service Areas, and from a Metropolitan Company." The second feature is called "Cavalcade of Gas" and like many good dramas, should not have its plot revealed before presentation.

The second installment of this program story will be run in the next issue of the MONTHLY at which time there will be an outline of the up-to-the minute Industrial and Commercial program, the Accident Prevention, Employee Education and Accounting Conferences, all of which will command your attention.

It's a Natural for Dallas

NATURAL gas has played such a tremendous role in the building of Dallas that it is appropriate for natural gas men to meet there for the thirty-sixth annual Natural Gas Convention from May 5 to 7. It is appropriate because a hundred years ago Dallas was founded and all are invited to help this beautiful city celebrate as well as to attend the Natural Gas meeting.

Many birthday events are being planned and Dallas is going to be in a festive mood for the party. Members of the industry who know the Southwest and Dallas are familiar with the beauty and charm of this country and its people, where living is enjoyed in the fullest sense and where, at the same time, seven league strides are taken in the advance of industry, science and the arts—in all those fields where continued development proves the pioneering vitality of the American people.

The Natural Gas Convention is an opportunity you must not miss this year—not only to hear an inspiring program but to become acquainted all over again, or for the first time, with the friendly hospitality in Dallas.

Dallas is proud to be the host city for the 1941 Natural Gas Convention and will leave nothing undone to make the visit of the natural gas men a memorable one.

For those who have always wanted to step over the border into friendly, sunny Mexico, a post-Convention tour has been planned which will include all of the beautiful and significant places in and around Mexico City and still get the busy executive back to his desk by May 19th.

Dallas looks forward to seeing you on May 5, 6 and 7 and for longer if you can stay.

A Tribute to William H. Gartley, Pioneer Engineer and Inventor

By P. T. DASHIELL

William H. Gartley

AS these words are written, there is being buried today (February 18) in the National Cemetery at Arlington, Virginia, a man who, throughout his life, had the love and respect of all who were associated with him—a kindly gentleman—an engineer of outstanding ability—a delightful companion always.

Beside his wife, Esther MacDonald Gartley, who died in 1928, and amongst many of his mates of the Class of 1881, United States Naval Academy, who have gone on—may he rest in peace!

William H. Gartley was born in Philadelphia, Pa., July 17, 1859, the son of Ferdinand P. and Mary Wilson Gartley; began his education in the Public Schools of Norristown; graduated from Norristown High School in 1874; from the Pennsylvania Polytechnic College with a degree of B.M.E. in 1876; entered Cornell as a freshman in 1876, completing his freshman year June, 1877. At this date he received an appointment to the United States Naval Academy, Annapolis, Maryland, and entered as a "plebe" in the Corps of Engineers in the fall of 1877; graduated from the Academy in 1881.

Having left the service in 1883, he became a draftsman with the Baldwin Locomotive Works.

Developed Water Gas Process

After about a year with Baldwin, he accepted a position as draftsman and engineer with the Lowe Manufacturing Co., of which Professor T. S. C. Lowe (one time Chief Aeronautical Officer of the U. S. Army—Union Forces), the inventor of the carburetted water gas process, was the chief.

Thus W. H. Gartley became one of the pioneers in the development of the manufacture of carburetted water gas—something new in 1884—to-day, in general use in the United States and other parts of the civilized world wherever oil is obtainable. Several of the important developments of this method of fuel or illuminating gas production, as we know it, are attributable either directly or indirectly to him.

In a recent letter to the writer, W. Cullen Morris, vice-president of the Consolidated Edison Company of New York, says:

"When you told me of Bill Gartley's death last night, you started a surge of memories that go back to my first entrance into the gas business. In all that long period of time he had been such an outstanding character both technically and socially in gas men's circles, that it seems almost as if one of the foundation stones of the industry had been displaced. All of us will miss him, and all of us will remember the contacts that we had with him throughout the years."

In the words of C. N. Lauer, president of The Philadelphia Gas Works Company:

"No one could have contact with Mr. Gartley without becoming a better man by reason of it."

In connection with Mr. Gartley's service with the Lowe Manufacturing Company (1884-85) he superintended the operation of the water gas plant at Plattsburg, N. Y.; and, as construction engineer, built one at Decatur, Illinois.

He left the Lowe Manufacturing Co. in 1885 to become chief engineer of the National Gas Light & Fuel Co. of Chicago—builders of water gas plants.

Pioneered in Philadelphia

In the years 1887-1888 a company, known as the Philadelphia Gas Improvement Co., having obtained rights under the Lowe patents, had built a carburetted water gas plant on property owned by the City of Philadelphia adjacent to the City's 25th Ward Gas Works (Richmond Works), and in April, 1888 entered into a contract to produce and sell to the City gas of relatively high illuminating value, for mixture with the gas of lower illuminating value produced by the City's coal gas works.

In 1889 W. H. Gartley became chief engineer of this company and was in charge of this water gas works—the main buildings of which are in use to-day at the Richmond Works.

In 1892 the United Gas Improvement Co. succeeded the Philadelphia Gas Improvement Co. as owners and operators of that plant, retaining Mr. Gartley as chief engineer.

On December 1, 1897, began the 30-year lease of all Philadelphia's gas production and distribution facilities to the United Gas Improvement Co. From that date to March 30, 1926, Mr. Gartley held the position of engineer of works of the entire Philadelphia Gas Works. On the latter date he was given the title of chief engineer, and on January 1, 1928, that of vice-president in charge of engineering.

He retired from active duty December 31, 1931, as an honorary vice-president of the United Gas Improvement Co.

He was president of the Illuminating Engineering Society in 1909, and of the American Gas Institute in 1914. He was a member of the American Gas Association from the time of its organization in 1918 until his death.

Having instigated and carried on important research work in connection with the recovery of by-products from manufactured gas, he was given in 1916 a most important assignment as a member of the Committee on Coal Tar By-Products for the Chemical Committee of the Council of National Defense. This committee was charged with the development of the recovery of benzol and toluol, both basic materials for the production of explosives required by the United States Army and Navy during the First World War. His work on this committee was probably his greatest contribution directly to the service of his country.

In 1928, in recognition of his many services to the gas industry, he was awarded the Walton Clark Medal of the Franklin Institute of Philadelphia. A brief description of his work on the above mentioned committee forms part of the citation accompanying the medal.

With all respect to his engineering achievements, it is probable that the qualities of him which will be longest and most pleasantly remembered by those who worked for and with him were his unfailing cheerfulness, his patience and skillful leadership, particularly during periods of stress and anxiety, which were not infrequently experienced.

His was a "Happy Ship" always—no matter what the weather.

McCall Gas Appliance Study Wins Award

THE study of the household gas appliance business which was made in 1940 by the McCall Corporation, publishers of "McCall's" and "Redbook" magazine, at the invitation of the Association of Gas Appliance and Equipment Manufacturers and with the help of the American Gas Association, has received the Medal Award for research achievement in the 1940 Annual Advertising Awards, originally known as the Harvard Bok Awards and now administered by "Advertising & Selling."

The McCall household gas appliance study was made under the supervision of Arthur Hirose, director of research for the McCall Corporation, and was originally presented by him to the AGAEM at its annual convention in Atlantic City in October. The study covers ranges, refrigerators, water heaters and house-heating.

Presentation of the award was made to Mr. Hirose for the McCall Corporation at the Annual Advertising Awards banquet, held in the Waldorf Astoria Hotel in New York on the evening of February 13.

How America Cooks . . . *a Bird's Eye View of the Existing Range Market*

By Edward R. Martin

Assistant Statistician, American Gas Association

APPROXIMATELY 1,743,000 gas ranges were sold during 1940. This was the largest number of units sold in any single year during the entire history of the gas industry. It is, in itself, the answer to the occasional unfounded rumor that gas cooking will eventually be replaced by the electric range.

Speaking of the country as a whole, it has been shown that the electric range has made little inroad into homes utilizing gas for cooking, the major portion of sales being placed in areas which are without benefit of gas service.* The purpose of this study is to illustrate and define the situation, as to gas and electric ranges, as it exists in individual states, regions and the country as a whole.

Almost 17 Million Gas Ranges

Today there are 34,772,673 occupied dwellings in the United States. Let us see just what methods they employ for cooking: 48.6 per cent, or 16,910,000 homes are equipped with gas ranges; 2,865,000 or 8.2 per cent utilize the electric range.

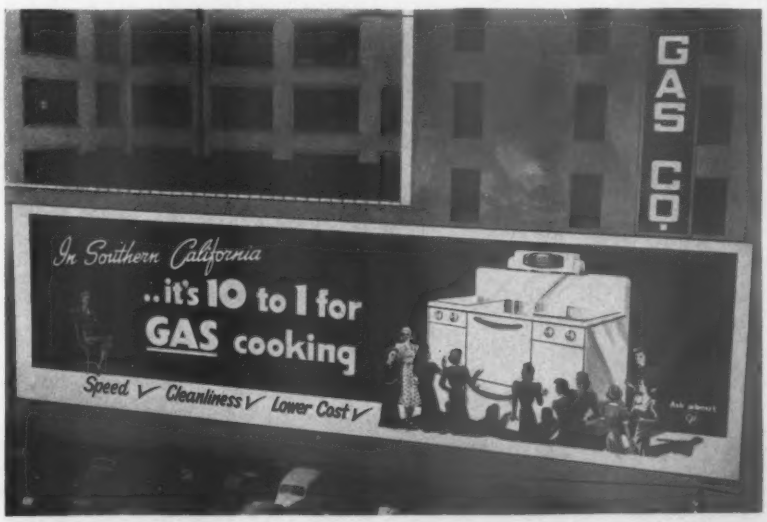
This leaves a great proportion of the homes in the United States that utilize neither utility gas nor electricity for cooking. Some 14,997,673 occupied dwellings, or 43.2 per cent of the nation's total, rely on other methods. Included in this figure, according to the latest estimate, are 1,125,000 bottled gas customers, 325,000 of which were added in 1940. It is apparent, therefore, that the 13,872,673 remaining dwellings provide an excellent potential market for bottled gas which, in the true sense, is the real competitor of the electric range in non-gas-served areas.

Just how strong, then, is the competition of the electric range? In unit figures, for every one electric range in service, approximately six gas ranges are in use. This ratio prevails despite the fact that the electric industry serves 25,536,627 wired homes in the country, or 8,626,627 more residential customers than the 16,910,000 residences connected to the mains of the gas industry. We are, therefore, comparing the cooking service of the gas industry which serves 48.6 per cent of the nation's occupied homes with that of the electric industry, which serves 73.4 per cent of these homes . . . . and gas can still boast a six to one advantage!

These 8,626,627 electric residential customers that do not have gas service make it difficult to analyze in detail the competitive situation of the gas vs. electric range by using national figures. Remembering that these 8,626,627 customers are spread over the entire country, representing 2,973,776 square miles of land surface, it is advisable to study a region where both gas and electric service are available to the majority of the residents.

Such a region is the eight Middle Atlantic and East North Central States. It contains 14,526,743 occupied dwellings, or 41.8 per cent of the nation's total. Of these homes, 12,823,560 are wired for electricity, amounting to 88.3 per cent of the total, and they represent 50.2 per cent of the total residential customers served by the electric industry. Also, 56.6 per cent of the gas industry's residential services are located here. This qualifies the region for more detailed study.

Of the total occupied dwellings in this region, 9,564,290 are using gas ranges. There are 1,200,722 employing electricity as a means of cooking. This constitutes a ratio of eight to one in favor of gas, while the country as a whole shows six to one in favor of gas.



Giant advertisement on the wall of the Southern California Gas Company's building in Los Angeles which points out the popularity of gas cooking and, incidentally, re-adapts the national advertising theme to the local ratio. The large panel, 30 x 105 feet, is in full color. Note the very lonely lady on the left who is envying her ten more fortunate neighbors

* See article "Statistics Prove Electric Gains Limited to Non-Gas Territory," A. G. A. MONTHLY, September, 1940, page 305.

GAS AND ELECTRIC

State	Occupied Dwellings in U.S. 1940*	Gas Ranges in Use 1/1/41	Electric Ranges in Use 1/1/41†	Number of Homes Wired for Electricity 1/1/41†	Excess Wired Homes Over Domestic Gas Customers	Total Gas and Electric Ranges in in Use 1/1/41
New England States						
Maine	209,664	35,510	30,369	186,560	151,050	65,879
New Hampshire	132,849	32,130	21,774	127,160	95,030	53,904
Vermont	92,414	17,470	13,179	76,840	59,370	30,649
Massachusetts	1,118,104	814,510	77,355	1,133,500	318,990	891,865
Rhode Island	187,610	123,440	17,477	182,270	58,830	140,917
Connecticut	446,717	292,540	50,424	446,760	154,220	342,964
Total New England	2,187,358	1,315,600	210,578	2,153,090	837,490	1,526,178
Middle Atlantic States						
New York	3,663,373	2,950,800	136,374	3,410,560	459,760	3,087,174
New Jersey	1,098,284	926,670	41,543	1,087,070	160,400	968,213
Pennsylvania	2,514,736	1,550,630	203,988	2,132,300	581,670	1,754,618
Total Middle Atlantic	7,276,393	5,428,100	381,905	6,629,930	1,201,830	5,810,005
East North Central States						
Ohio	1,894,897	1,278,400	208,572	1,653,000	374,600	1,486,972
Indiana	959,563	383,850	112,308	765,000	381,150	496,158
Illinois	2,189,223	1,352,800	137,520	1,832,000	479,200	1,490,320
Michigan	1,382,738	755,880	256,131	1,268,630	512,750	1,012,011
Wisconsin	823,929	365,260	104,286	675,000	309,740	469,546
Total East North Central	7,250,350	4,136,190	818,817	6,193,630	2,057,440	4,955,007
West North Central States						
Minnesota	726,391	263,800	99,129	497,400	233,600	362,929
Iowa	700,173	191,080	45,840	487,000	295,920	236,920
Missouri	1,065,653	412,610	69,333	674,000	261,390	481,943
North Dakota	152,039	18,600	17,763	66,800	48,200	36,363
South Dakota	165,113	25,370	18,050	78,600	53,230	43,420
Nebraska	360,255	123,440	17,476	244,000	120,560	140,916
Kansas	512,090	226,590	26,358	332,400	105,810	252,948
Total West North Central	3,681,714	1,261,490	293,949	2,380,200	1,118,710	1,555,439
South Atlantic States						
Delaware, Maryland—						
District of Columbia—	704,163	451,490	50,710	560,500	109,010	502,200
Virginia	627,550	133,590	63,030	362,800	229,210	196,620
West Virginia	445,686	194,470	25,499	254,500	60,030	219,969
North Carolina	786,446	47,350	91,680	370,500	323,150	139,030
South Carolina	434,557	27,060	36,099	151,800	124,740	63,159
Georgia	750,633	109,920	81,652	300,000	190,080	191,572
Florida	519,436	103,140	91,394	312,200	209,060	194,534
Total South Atlantic	4,268,471	1,067,020	440,064	2,312,300	1,245,280	1,507,084
East South Central States						
Kentucky	700,892	182,630	20,055	316,800	134,170	202,685
Tennessee	713,853	77,780	99,989	324,000	246,220	177,769
Alabama	670,111	79,480	50,997	252,500	173,020	130,477
Mississippi	537,359	52,420	13,752	131,800	79,380	66,172
Total East South Central	2,622,215	392,310	184,793	1,025,100	632,790	577,103
West South Central States						
Arkansas	494,716	79,480	7,449	145,900	66,420	86,929
Louisiana	590,722	192,770	8,308	263,470	70,700	201,078
Oklahoma	609,094	275,630	4,870	282,800	7,170	280,500
Texas	1,674,828	671,330	57,587	824,000	152,670	728,917
Total West South Central	3,369,360	1,219,210	78,214	1,516,170	296,960	1,297,424
Mountain States						
Montana	159,398	43,970	20,914	103,003	59,033	64,884
Idaho	140,742	1,690	36,386	105,000	103,310	38,076
Wyoming	69,227	23,670	4,011	39,970	16,300	27,681
Colorado	314,952	103,770	19,195	212,000	108,230	122,965
New Mexico	128,389	23,670	3,725	39,304	15,634	27,395
Arizona	130,020	35,510	6,876	83,600	48,090	42,386
Utah	139,580	27,060	35,526	117,630	90,570	62,586
Nevada	33,326	2,770	7,162	22,000	19,230	9,932
Total Mountain	1,115,634	262,110	133,795	722,507	460,397	395,905
Pacific States						
Washington	534,237	67,640	128,925	461,000	393,360	196,565
Oregon	335,944	89,620	87,955	266,700	177,080	177,575
California	2,130,997	1,670,710	106,005	1,876,000	205,290	1,776,715
Total Pacific	3,001,178	1,827,970	322,885	2,603,700	775,730	2,150,855
Total United States	34,772,673	16,910,000	2,865,000	25,536,627	8,626,627	19,775,000

* Bureau of the Census, Department of Commerce.
† Source—*Electrical Merchandising.*

RANGE SATURATION IN AMERICA

Number of Occupied Dwellings Using Other Than Gas or Electricity for Cooking	Gas Ranges Per Cent of Occupied Dwellings	Electric Ranges Per Cent of Occupied Dwellings	Total Gas and Electric Ranges Per Cent of Occupied Dwellings	Occupied Dwellings Using Other Than Gas or Electricity for Cooking	Electric Wired Homes Per Cent of Occupied Dwellings	Electric Ranges Per Cent of Wired Homes	Electric Ranges Per Cent of Excess Wired Homes
143,785	16.9	14.5	31.4	68.6	89.0	16.3	20.1
78,945	24.2	16.4	40.6	59.4	95.7	17.1	22.9
61,765	18.9	14.3	33.2	66.8	83.1	17.2	22.2
226,239	72.8	6.9	79.7	20.3	101.4	6.8	24.2
46,693	65.8	9.3	75.1	24.9	97.2	9.6	29.7
103,753	65.5	11.3	76.8	23.2	100.0	11.3	32.7
661,180	60.1	9.6	69.7	30.3	98.4	9.8	25.1
576,199	80.5	3.7	84.2	15.8	93.1	4.0	29.7
130,071	84.4	3.8	88.2	11.8	99.0	3.8	25.9
760,118	61.7	8.1	69.8	30.2	84.8	9.6	35.1
1,466,388	74.6	5.2	79.8	20.2	91.1	5.8	31.8
407,925	67.5	11.0	78.5	21.5	87.2	12.6	55.7
463,405	40.0	11.7	51.7	48.3	79.7	14.7	29.5
698,903	61.8	6.3	68.1	31.9	83.7	7.5	28.7
370,727	54.7	18.5	73.2	26.8	91.7	20.2	50.0
354,383	44.3	12.7	57.0	43.0	81.9	15.4	33.7
2,295,343	57.0	11.3	68.3	31.7	85.4	13.2	39.8
363,462	36.3	13.6	49.9	50.1	68.5	19.9	42.4
463,253	27.3	6.5	33.8	66.2	69.6	9.4	15.5
583,710	38.7	6.5	45.2	54.8	63.2	10.3	26.5
115,676	12.2	11.7	23.9	76.1	43.9	26.6	36.9
121,693	15.4	10.9	26.3	73.7	47.6	23.0	33 9
219,339	34.3	4.9	39.2	60.8	67.7	7.2	14.5
259,142	44.2	5.1	49.3	50.7	64.9	7.9	24.9
2,126,275	34.3	8.0	42.3	57.7	64.6	12.3	26.3
201,963	64.1	7.2	71.3	28.7	79.6	9.0	46.5
430,930	21.3	10.0	31.3	68.7	57.8	17.4	27.5
225,717	43.6	5.7	49.3	50.7	57.1	10.0	42.5
647,416	6.0	11.7	17.7	82.3	47.1	24.7	28.4
371,398	6.2	8.3	14.5	85.5	34.9	23.8	28.9
559,061	14.6	10.9	25.5	74.5	40.0	27.2	43.0
324,902	19.9	17.6	37.5	62.5	60.1	29.3	43.7
2,761,387	25.0	10.3	35.3	64.7	54.2	19.0	35.3
498,207	26.1	2.9	29.0	71.0	45.2	6.3	14.9
536,084	10.9	14.0	24.9	75.1	45.4	30.9	40.6
539,634	11.9	7.6	19.5	80.5	37.7	20.2	29.5
471,187	9.8	2.6	12.4	87.6	24.5	10.4	17.3
2,045,112	15.0	7.0	22.0	78.0	39.1	18.0	29.2
407,787	16.1	1.5	17.6	82.4	29.5	5.1	11.2
389,644	32.6	1.4	34.0	66.0	44.6	3.2	11.8
328,594	45.3	0.8	46.1	53.9	46.4	1.7	67.9
945,911	40.1	3.4	43.5	56.5	49.2	7.0	37.7
2,071,936	36.2	2.3	38.5	61.5	45.0	5.2	26.3
94,514	27.6	13.1	40.7	59.3	64.6	20.3	35.4
102,666	1.2	25.9	27.1	72.9	74.6	34.7	35.2
41,546	34.2	5.8	40.0	60.0	57.7	10.0	24.6
191,987	32.9	6.1	39.0	61.0	67.3	9.1	17.7
100,994	18.4	2.9	21.3	78.7	30.6	9.5	23.8
87,634	27.3	5.3	32.6	67.4	64.3	8.2	14.3
76,994	19.4	25.5	44.9	55.1	84.3	30.2	39.2
23,394	8.3	21.5	29.8	70.2	66.0	32.6	37.2
719,729	23.5	12.0	35.5	64.5	64.8	18.5	29.1
337,672	12.7	24.1	36.8	63.2	86.3	28.0	32.8
158,369	26.7	26.2	52.9	47.1	79.4	33.0	49.7
354,282	78.4	5.0	83.4	16.6	88.0	5.7	51.6
850,323	60.0	10.8	71.7	28.3	86.8	12.4	41.6
14,997,673	48.6	8.2	56.8	43.2	73.4	11.2	33.2

In this area, then, where a greater proportion of families can make their choice between gas and electric ranges, the ratio is higher for gas than in the country as a whole.

As to the electric range, 9.4 per cent of the wired homes (or 8.3 per cent of the total dwellings) in this region "kook with kilowatts," while the gas range is used in 65.8 per cent of these dwellings. At this point, it is interesting to consider the number of excess residential customers served by the electric over the gas industry. This totals 3,259,270 homes. These homes afford the ideal market for manufacturers of other types of ranges.

The total electric ranges in this region represent 41.9 per cent of all those in service. Yet the ratio of gas over electric ranges is much more favorable to gas in this region than it is in the country as a whole. This clearly illustrates the preference for gas ranges where the two fuels are available, and that the bulk of electric range installations are going into the excess wired homes the electric industry serves over and above the residential customers of the gas industry.

Public Prefers Gas Cooking

Behind each gas range in use is an industry that is progressive; there is, too, in territory served by gas, not only public acceptance but *public preference*—which establishes once again the fact that gas has no peer as a cooking fuel. The future of the gas range can be considered secure!

The electric industry spends more than five times as much money for household appliance advertising in national magazines as does the gas industry. A glance through these nationally read periodicals will readily illustrate the extent of the electric range manufacturers' advertising program. This advertising space is being utilized in an attempt to convince the public that this is the age of electric cookery.

In Chicago there were 112,000 gas ranges sold during 1940. There were, during the same year, only 4,125 electric ranges sold. (This shows a ratio of about 27 gas to one electric range sold.) Of these electric ranges sold, a large percentage of them were replaced by modern gas ranges before Chicago celebrated the New Year. This situation has occurred, not only in Chicago, but in other large cities throughout the country.

The question of why this happened is bound to arise. The answer is that the final acceptance of any product is in the hands of the public. Advertising can influence an original sale, but the homemaker's experience controls its acceptance or rejection.

Chicago, with its large volume of gas range sales, seems to have found and utilized the formula for successful marketing. It is an illustration of great significance to the gas industry. What has been done in Chicago can be done in every city of the United States where gas service is available.

The year 1940 was the best sales year in the history of the gas range. With application of all facilities, each year to come should serve to demonstrate the security of the gas range as America's foremost cooking appliance.

Doctor, Lawyer, Banker, Cook It Doesn't Matter

The Mystery Chef shows a group of Bridgeport business men how easy it is to be "artists at the gas range"

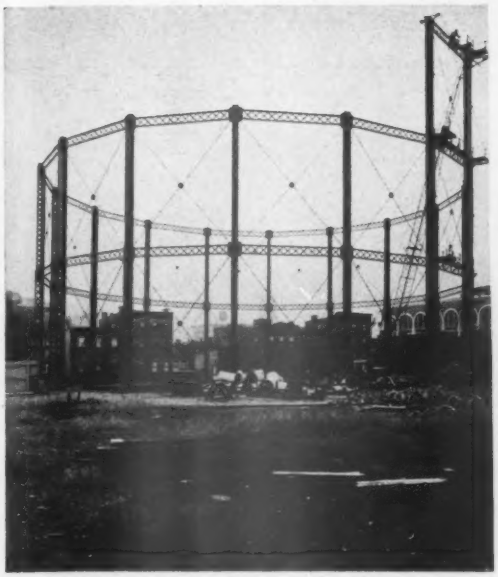
IT seems that prominent business and professional men as well as housewives like to get their hands mixed up in dough (flour-made variety) and other essential ingredients in the fine art of cooking. At least a representative group in Bridgeport, Conn., was willing and eager to take part in a Hobby Cooking School sponsored last month by The Bridgeport Gas Light Company. The results were amazing—and a few wives are likely to have their culinary efforts examined with a critical eye hereafter.

The Mystery Chef, whose radio programs have sent millions scurrying to the kitchen, once again demonstrated his oft-repeated contention that any group of men, or any child for that matter, with sufficient intelligence to read a cook book can produce a meal on a modern gas range. His pupils for the evening, who are pictured above, consisted of the editor of the city's largest newspaper, a bank vice president, two dentists, an Episcopalian Rector, head master of a large private school, and the secretary of the local Chamber of Commerce who is co-owner of a large commercial bakery. Missing from the picture but also interested in the hobby cooking group, is the president of a large department store and an admiralty lawyer.

The Mystery Chef divided the men into pairs and each pair prepared one of the courses that was later served at the dinner. During the dinner the Mystery Chef outlined a number of his fundamental cooking practices. A gas range and preparation table with the necessary utensils were provided for each pair of men.

The meal was a four-course affair flanked with hot biscuits and topped off by strawberry shortcake. The cooks who ate their own cooking declared it to be good—in fact about the best they had ever eaten—and newspaper accounts of the affair stated that they were holding up well the following day.

Those present beside the Mystery Chef included: Ronald A. Malony, sales manager of The Bridgeport Gas Light Company; Dr. Harold R. Connelly, Frederick B. Wierk, George C. Waldo, Dr. Reinhold C. Speiser, Rev. J. Warren Hutchins, Lewis A. Shea, Alfred B. Bodine, Max Ams, Robert A. Crosby, Matthew E. Byrne, and Harold G. Stevens.



At left is the gas company property in September, 1938, while workmen were dismantling a gas holder. The same property is shown on the right after it had been converted into a popular playground for the children living in a congested section of Brooklyn. The company received a citation from park authorities for its generous action. A football game was in progress when the picture was taken

Brooklyn Union Wins Community Acclaim for Providing Public Playground

This article is sponsored by the Committee on Community Development, H. C. Thuerk, Utility Management Corp., New York, chairman. It is a continuance of the series of articles published in the MONTHLY during the past year describing participation of gas companies in community affairs.

FOR permitting a piece of its property to be used as a public playground, The Brooklyn Union Gas Company recently received a citation of merit from the Park Association of New York.

A little more than two years ago the company demolished its Front Street holder station. This left a plot of ground about 250 feet wide facing on Front Street and running back 275 feet to York Street, where it had a frontage of 173 feet.

The property was located in a densely populated section of Brooklyn, near the East River waterfront. Although there were thousands of children living in the neighborhood, there were few play areas.

The suggestion soon was advanced that arrangements be made to open the tract as a playground. To this end the company conferred with a number of organizations. It offered the use of its property to any responsible group which would undertake to establish and maintain a playground.

The York Street Boys Association welcomed the opportunity and immediately set to work preparing the plot. Volunteer gangs of boys leveled the ground, local business organizations contributed fill, a baseball diamond was laid out.

Soon the vacant land was transformed into an attractive playground, which instantly became a popular recreational center for the children who formerly had played in the streets.

The building of the playground by the boys themselves attracted the attention of the New York newspapers, with the result that the project received wide publicity. The *Daily News* published several pictures showing the boys at work.

Elizabethtown Gas Plans Building Program

AN extensive expansion program has just been announced by the Elizabethtown Consolidated Gas Company, Elizabeth, N. J. In a short time this company will start construction of an additional water gas set, a waste heat boiler, a water gas blower and other miscellaneous equipment.

The new building will be 100 ft. long, 90 ft. wide, and 52 ft. high. It will be large enough to accommodate three water gas sets. This will increase the plant from a present daily capacity of twelve million cubic feet to seventeen million cubic feet.

In addition, Elizabethtown Consolidated is constructing an appliance distribution building which will be 275 ft. long, 213 ft. wide, and one story high. This will include storeroom space for appliances and fittings, a garage repair shop, office space and room for assembling and testing new appliances, a kitchen testing room, and a meeting room which will hold approximately 125 people. The last-named two rooms will be divided by accordian-type doors that will fold back so that cooking demonstrations can be shown to a large audience. This building will also have a loading platform that will accommodate 40 cars at one time.

Heat for the latter building will be supplied by a gas-fired forced hot water system and gas-fired unit heaters. An emergency gas engine-driven electric generator will be installed to operate electrical devices in connection with the heating system in the event of outside power failure. The structure will be complete with locker rooms, lavatories, janitor room, furnace room and complete sprinkler system.

Warplane Factory to Use Natural Gas

LONE STAR GAS COMPANY has been awarded a contract to furnish natural gas for all fuel requirements at the $7,000,000 warplane factory now under construction east of Grand Prairie, Texas, by North American Aviation, Inc. This company has constructed a 2,500-foot tie-in line to run north from the factory site to Lone Star's 8-inch field line from Dallas to Forth Worth.

Utilities' Advertising Executive Dies

James M. Bennett

JAMES M. BENNETT, assistant to the president of the Philadelphia Electric Company, former newspaper editorial executive, and past chairman of the former Publicity and Advertising Section of the American Gas Association, died in Philadelphia January 27. He was 72 years old.

A graduate of Baltimore City College, Mr. Bennett held reportorial and editorial positions on Philadelphia newspapers for 16 years after going to that city in 1904 from Baltimore, where he was born. For some time he was city editor of The Philadelphia Evening Ledger.

Mr. Bennett in 1920 became the first publicity representative of the Protestant Episcopal Diocese of Pennsylvania and the next year he was appointed publicity manager for the United Gas Improvement Company. He was made manager of the public relations department of the Philadelphia Electric Company in 1928, and in April, 1939, was promoted to the position he held at his death.

During the World War Mr. Bennett was a member of the American Commission for Relief of Belgium. He met the late Cardinal Mercier while in Europe and it was through Mr. Bennett's efforts that the Belgian prelate wrote the story of his wartime experiences.

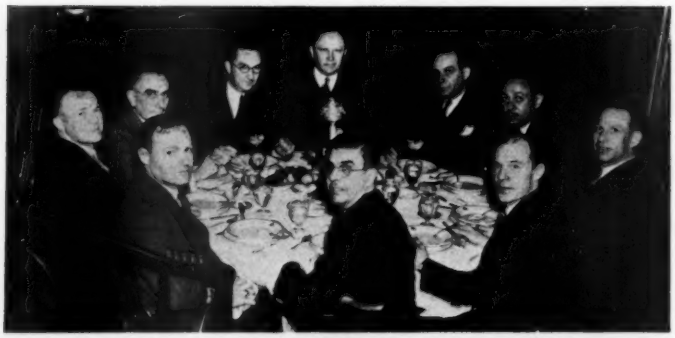
A member of the American Gas Association since 1922, Mr. Bennett was an active leader of publicity and advertising activities of the Association. In addition to being chairman of the Publicity and Advertising Section, which was reorganized in 1934, he was a member of the Editorial Advisory Committee of the A. G. A. MONTHLY.

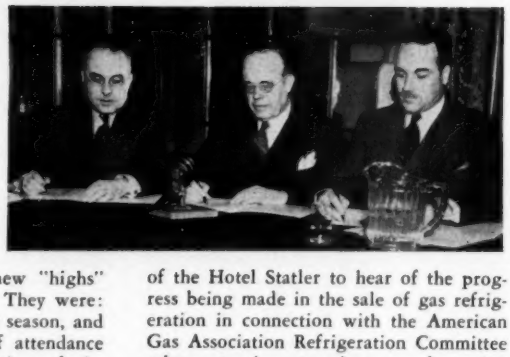
National Ruud Campaign

DID YOU SAY 100,000 RUST-FREE BEAUTY BATHS?
YES!... SNUGLER DAN PROVES THAT A RUUD WATER HEATER'S TANK OF MONEL WILL GIVE YOU LIFETIME FREEDOM FROM THE WORRY THAT "DIRTIES" HOT WATER AND DAMPENS LEAKS!
MONEL
... the metal that needs no guarantee!

Lead-off advertisement in the largest national advertising program yet scheduled for Ruud gas water heaters, which begins in March. Twice the size of previous insertions, in two colors, the ads will appear in Saturday Evening Post, Collier's, Life, Better Homes & Gardens *and* American Home *as well as selected local magazines*

450 Attend New England Gas Meeting To Promote Refrigerator Sales





Executives of New England Gas Utilities at the banquet held during the annual sales meeting under the chairmanship of Robert D. Stuart, Jr.

Right—Three former chairmen of the A. G. A. Refrigeration Committee who served as judges of the sales meeting's "Quiz Contest." They are, left to right: J. J. Quinn, Cyrus Barnes, and Ronald A. Malony

BOSTON achieved two new "highs" on Friday, January 24. They were: the biggest snowstorm of the season, and the best meeting in point of attendance ever held by the sales division of the New England Gas Association.

More than four hundred and fifty executives and salesmen of New England utilities over-flowed the Georgian Room of the Hotel Statler to hear of the progress being made in the sale of gas refrigeration in connection with the American Gas Association Refrigeration Committee sales campaign, to view sound motion pictures carrying sales messages and presenting the latest model gas refrigerators, and to hear leaders in the industry review activities.

Gas Heat Scores Anew in Livable Homes

WITH national statistics in 1940 reflecting the continued sky-rocketing of the gas house heating load, new evidence of popularity appears in the February number of *House & Garden* magazine whose separately bound Special Section is built around a presentation of "Plans for 45 Livable Homes." In these plans which range from "neat little colonials in Cleveland" through pre-fabricated developments and sprawling California ranch houses to Georgian mansions and stately Washington homes, it is noteworthy that 26 of the 45 specify gas heat. This high proportion in favor of gas is a fine tribute to a matchless fuel.

Southwestern Gas Measurement Short Course To Be Held April 15-17

Committee Meeting of the Southwestern Gas Measurement Short Course which was held in Norman, Oklahoma, January 17. In attendance, left to right, standing: W. H. Carson; E. M. Myers; E. C. McAninch; Max K. Watson; J. H. Page; J. H. Satterwhite; William F. Lowe; W. R. McLaughlin; R. M. Scofield; E. L. Stark. Left to right, sitting around the table: Gilbert Estill; Earl Kightlinger; C. A. Gibson; Ray L. Rountree; G. W. McCullough; D. A. Sillers, and Kate A. Niblack.

Other members of the General Committee not present for the picture are: Dr. F. V. L. Patten; E. H. Poe; R. J. Sullivan; C. E. Terrell and W. H. Woods.

PERSONS approximating 650 or more from all parts of the United States are expected to attend the Seventeenth Annual Southwestern Gas Measurement Short Course which will be held at the University of Oklahoma, College of Engineering, Norman, Oklahoma, April 15-17.

Final arrangements for this annual gathering were discussed at a meeting of the General Committee at the University on January 17, Ray L. Rountree, United Gas Pipe Line Company, Shreveport, Louisiana, presiding at the morning session, and G. W. McCullough, Phillips Petroleum Company, Bartlesville, Oklahoma, chairman of the Program Committee, presiding at the afternoon session.

Chairmen of other committees besides Mr. Rountree and Mr. McCullough are: W. H. Carson, Dean of the College of Engineering, University of Oklahoma, Local Arrangements, Banquet and Entertainment; Earl Kightlinger, Arkansas Louisiana Gas Company, Shreveport, Publications; C. A. Gibson, Cities Service Gas Company, Bartlesville Exhibits; R. M. Scofield, Lone Star Gas Company, Dallas, Study of Practical Methods; and Kate A. Niblack, Oklahoma Utilities Association, Oklahoma City, Registration and Publicity.

At a meeting of the committee on March 10 in Tulsa, Mr. McCullough will present the program for final approval. At this time all business matters in connection with the 1941 Short Course will be transacted.

During the past sixteen years, these courses have attracted 8,392 persons. Six hundred and seventy persons from twenty-one states, Canada and Mexico attended the School last year. Six hundred and forty-four companies have sent representatives to the short courses in past years.

Except for a banquet session, the delegates spend their time in classes because they must follow a regular schedule each day. During their stay at the University of Oklahoma, they hear discussions and lectures on problems pertaining to the measurement and regulation of dry and casing-head gas. Leading manufacturers exhibit the newest developments in equipment.

To stimulate interest in the short course, prizes are awarded those who write the best papers on what they learned during the three-day meeting.

Prone Pressure Training Pays Dividends

IN behalf of the American Gas Association, R. H. Patterson, vice-president and manager of the Lawrence Gas and Electric Company, Lawrence, Mass., February 3 presented Arthur Bergeron with a McCarter Medal Award and Walter F. Coleman with a Certificate of Assistance for the extraordinary performance of their duties which culminated in the rescue and successful resuscitation of a near-victim of gas poisoning.

Those also taking part in the presentation were, H. Southworth, assistant manager, H. E. Barry, chairman of the Safety Committee, B. M. Johnson, secretary of the Safety Committee, G. W. Culver, superintendent of the gas department, C. H. Bendroth, foreman of the service department and Fred Washburn, insurance inspector for The Employers' Liability Assurance Corporation.

Some time ago, unaware that they were on an errand of mercy these two employees of the service department of the company, responded to a routine gas leak call. Arriving at the scene of the call, Bergeron and Coleman entered the kitchen and found an unconscious form lying on the floor near the gas range. Coleman immediately ventilated the kitchen and then assisted Bergeron in removing the unconscious person to another room. Bergeron then promptly applied the Schafer prone pressure method of artificial respiration, and in about twenty-five minutes succeeded in restoring the near-victim to consciousness.

In the meantime Coleman had obtained the services of a doctor and had also summoned Inhalator Crews from the Lawrence Gas and Electric Company and the Lawrence Fire Department. There was little for them to do however, and the doctor advised the removal of the patient to a hospital for observation and further treatment. Later it was learned that the patient had made a complete recovery.

Bergeron and Coleman are to be highly commended for the exemplary manner in which they conducted themselves. With the aid of Providence and a sound training in safety practices they succeeded in saving the life of a human being.

To John P. McCann, manager of the safety department, and his able assistants should go full credit for including in the curriculum of safety activities monthly prone pressure practice for all physically fit males under sixty years of age. The few short minutes given over to this monthly practice continues to pay dividends in the saving of human lives.

Bogan Appointed Director of CP Range Program

John E. Bogan

JOHN E. BOGAN has been appointed sales promotion manager to direct the Certified Performance Gas Range Program for the Association of Gas Appliance and Equipment Manufacturers as of February 1. He succeeds R. S. Agee.

Prior to joining the association two years ago, Mr. Bogan was director of sales for the Central Illinois Light Co., Peoria, Ill. and had been associated with that company in various capacities for more than fifteen years. Because of his knowledge of advertising and dealer coordination he served on several committees of the Illinois Public Utilities Association.

Acting in the capacity of CP gas range field sales counsellor for the past two years, Mr. Bogan has travelled more than 150,000 miles throughout the United States conferring with dealers and gas company executives. He is a well known authority on marketing methods and sales promotion and has addressed hundreds of sales groups in his extensive travels.

Merit Plan To Govern Contents of Natural Gas Proceedings

THE Natural Gas Section of the American Gas Association announces a radical change in its editorial policy in connection with the publishing of the annual Natural Gas Proceedings. A Merit Award Plan has been devised as an instrument by means of which meritorious papers from natural gas meetings of the American Gas Association and affiliated associations will be selected to form an annual volume of unquestioned value to the industry.

Heretofore it has been the practice to publish all papers presented at natural gas meetings of the American Gas Association and although these papers have been noteworthy, their value has at times been momentary. With the aid of the Merit Award plan the Proceedings will carry only those papers which in the opinion of the Merit Award Committee, composed of the past three chairmen of the Natural Gas Section, are of lasting interest to the industry.

It is impractical and almost impossible for the average man in the natural gas industry to familiarize himself with the many fine papers which come annually from the various natural gas meetings all over the country. From now on, the cooperation of these associations, the outstanding papers and studies will be gathered together into one volume and it is expected that the Proceedings will improve its natural place in the industry as an invaluable reference book.

Affiliated groups have been asked to work out their own methods for selecting papers. They have been sent as a guide the outline which the Natural Gas Section will follow in making final selection. The method of grading, however, remains constant for all associations. That method is outlined as follows:

Value to the Industry

An "Award" paper must express a workable idea or make a recommendation which if acted upon would be of unusual value to the industry or to some department of the industry. This is necessarily indeterminate and a matter of judgment.

Mark from.....0 to 30 per cent

Originality

An "Award" paper should have a strong element of originality in concept or thought. It may come through a new application of an old theme or process, or by applying to the gas industry some process or practice proved in another industry.

Mark from.....0 to 25 per cent

Thoroughness of Study

An "Award" paper should prove its contention. There should be evidence that the author is familiar with previous literature on his subject and has given such consideration to existing experience, causes, and effects, actual tryouts, etc. that his conclusions are definitely supported. The committee may seek outside advice as to the accuracy of statements contained in papers.

Mark from.....0 to 25 per cent

Availability

This brings in a practical time element. The idea may be of great value but not practical until other conditions are fulfilled, or additional investigation may be required.

Mark from.....0 to 15 per cent

Treatment

This has to do with the literary qualities of the paper.

Mark from.....0 to 5 per cent

Many groups affiliated with the American Gas Association have signified their approval of this plan and with the cooperation which they have promised it is expected that the committee will have many excellent papers on hand by June 1st, the final date on which these papers may be received if they are to be eligible for publication in the 1941 Proceedings.

Less Than TWO MONTHS TO GO **Contest Ends May 1, 1941**

Prize Paper CONTEST

on the subject:

"How I Would Increase Public Acceptance of Gas as the Ideal Domestic Fuel"

FIRST PRIZE $150.00
SECOND PRIZE 75.00

These prizes are offered by the American Gas Association through its Committee on Personnel Practices. Descriptive leaflets and bulletin board posters on the contest may be obtained from Association Headquarters.

CONTEST RULES

1. All employees of member gas companies of the American Gas Association are eligible to enter.
2. Contest closes May 1, 1941.
3. Papers may be of any length. They should be typewritten on one side only, and submitted in duplicate. The first page must show only the name of the author, the name and address of employing company, the author's title or character of position, and his home address.
4. Papers must be the original work of the author or authors, prepared exclusively for this competition.
5. Papers not receiving awards will, upon request, be returned to authors after awards have been announced.
6. Papers receiving awards become the property of the American Gas Association and will be available for inspection at its Headquarters.
7. The judges of the contest shall be the President and the two Vice Presidents of the American Gas Association, respectively T. J. Strickler, George F. Mitchell and George S. Hawley.
8. All decisions of the judges will be final. Winners will be announced and prizes awarded at the 1941 convention of the American Gas Association.
9. Papers must be mailed to the Chairman, Committee on Personnel Practices, American Gas Association, 420 Lexington Avenue, New York, N. Y., and be postmarked not later than midnight May 1, 1941.

AFFILIATED ASSOCIATION *Activities*

New England Gas Association Holds Annual Convention in March

J. A. Weiser

A FAST-MOVING program packed with valuable information on the most urgent problems of the gas industry has been prepared for the annual convention of the New England Gas Association which takes place Thursday and Friday, March 27 and 28, at the Hotel Statler, Boston, Mass. Representatives of national associations, practical sales and operating executives, as well as outside authorities will address the meetings. John A. Weiser, vice-president and general manager of The Newport Gas Light Company, is president of the Association.

Strickler To Speak

Prominent among the first session speakers are Thomas J. Strickler, and Alexander Forward, president and managing director, respectively of the American Gas Association, and W. E. Derwent, president of the Association of Gas Appliance and Equipment Manufacturers. These men will analyze the present business situation and the national cooperative problems of the industry. A report on the New England Association's year will be made by Clark Belden, secretary. Awards for division best papers will also be made at this session.

A varied program at the Thursday afternoon meeting includes presentations on accounting changes, L. A. Mayo, The Connecticut Light & Power Co.; the New England servicing project, R. J. Rutherford, vice-president, Worcester Gas Light Co.; meeting peak loads and other technical developments, Alfred I. Phillips, editorial director, *American Gas Journal*; gas distribution under flow control, Charles G. Young, Springfield Gas Light Co.; and sales possibilities for industrial and commercial gas, Harry W. Smith, American Gas Association.

The outstanding feature innovations at the convention will be a five-star panel discussion dinner Thursday evening. Five prominent advertising, newspaper and public relations experts will present a panel discussion of sales promotion, advertising, public relations and business economics—with no restrictions, and "no holds barred."

A feature of the Friday morning program will be an address on "Organization—Experience and Opportunity" by Clifford E. Paige, president, The Brooklyn Union Gas Company. Another headliner will be Dr. Allen A. Stockdale, National Association of Manufacturers.

Other speakers on the Friday morning program are: W. Thompson Fulton, Surface Combustion Corporation, on gas heating; George S. Jones, Jr., Servel, Inc., on the gas refrigerator, and E. E. Linburg, Metropolitan Edison Co., on how to increase domestic sales.

The concluding session, Friday afternoon, concentrates on four broad-gauged problems of national significance, namely, the consumer movement, scientific research, market research and economics of national defense. The speakers are Elmo Roper, market consultant; Gustavus J. Esselen, Ph.D., head of a chemical engineering firm; Lester Ginsburg, Columbia Engineering Corp.; and C. O. Ruggles, professor of public utility management and regulation and director of research, Harvard Business School.

A home service luncheon program led by Lillian P. Dunbar, home service director, Brockton Gas Light Co., and chairman, N.E.G.A. home service group, will be held Friday at 12:30 P.M. This will be followed at 4 P.M. by a round-table tea session with Lyda Flanders, Worcester Gas Light Co., presiding.

An exhibit of the latest appliances and equipment by 40 manufacturers will round out this interest-packed convention.

Wisconsin Utilities Association

THE Gas Section of the Wisconsin Utilities Assn. will hold its convention March 17 and 18, Wisconsin Hotel, Milwaukee. The Commercial and Technical Divisions of the Section will hold a combination session on the first day, and will conduct separate sessions on the second day.

The program for the combination session includes the following speakers: Major T. J. Strickler, Kansas City, Mo., president of the American Gas Association; A. P. Gale, Madison, president of the Wisconsin Utilities Association; Bruno Rahn, Milwaukee, president of the Milwaukee Gas Light Co.; H. A. Watson, New York, field counsellor, Assn. of Gas Appliance & Equipment Mfgrs., and Ralph Towne, Toledo, Surface Combustion Corp.

The Commercial session on the second day includes the following speakers: Karen Fladoes, Chicago, home service director, The Peoples Gas Light & Coke Co.; Lyle Williams, Wausau, Wausau Gas Co.; C. E. Bartlett, Pittsburgh, Ruud Manufacturing Co.; and B. T. Franck, Milwaukee Gas Light Co.

The Technical session on the second day includes the following speakers: Frank Holaday, Baraboo, Wisconsin Power & Light Co.; Prof. O. L. Kowalke, Madison, University of Wisconsin; A. D. MacLean, Pittsburgh Equitable Meter Co. and Arden O. Knutson, Milwaukee Gas Light Co.

Round table sessions will be held by both divisions on the afternoon of the second day. The technical groups include the Gas Manufacture Committee, the Meter and Pressure Regulator Committee, and the Customer Service Committee. The commercial groups are Commercial & Industrial House Heating & Air Conditioning Committee, Water Heating Committee, Cookery Committee, and Commercial Cooking, Refrigeration and Baking Committee.

Missouri Association of Public Utilities

B. C. Adams

THE annual State convention of the Missouri Association of Public Utilities will be held this year on April 23-25, at the Elms Hotel, Excelsior Springs, Mo. Ben C. Adams, Gas Service Company, Kansas City, Mo., president of the Association, will preside at the business sessions.

Among the speakers will be: Maj. T. J. Strickler, Kansas City, Mo., president, American Gas Association; Dr. James S. Thomas, Detroit, Mich., president, Chrysler Institute of Engineering; J. Raymond Schutz, Indianapolis, Ind., president, Standard Life Insurance Company of Indiana; Harry Hancock, New York City, chairman, Natural Gas Section, American Gas Association; M. W. Myers, Kansas City, Mo., supervising engineer, Travelers Insurance Company; and J. H. Warden, Tulsa, Okla., Oklahoma Natural Gas Company.

Among the subjects to be presented are: "Yesterday, Today, and Tomorrow"; "Gearing Industry to National Defense"; "Community Development"; "The Economic Fu-

ture of the United States"; "Your Crime Against Safety"; "Looking Ahead."

A Safety Meeting in charge of the Accident Prevention Committee will open the convention. A safety demonstration will be given by the safety team of the St. Joseph, Mo., Railway, Light, Heat & Power Company.

A statewide speaking contest for employees of electric and gas companies in Missouri for cash prizes will be held on the evening of April 23. The subjects will be: For women—"Does the Utility Customer Get His Money's Worth?"; For men—"The Utilities' Part in National Defense." Seven companies will have contestants.

An Open Forum on the afternoon of April 24 for the discussion of timely utility problems will be in charge of E. H. Lewis, Webster Groves, Mo., vice-president, St. Louis County Gas Company. All available past-presidents of the Association will be seated at the head table as guests of honor at a Get-Acquainted luncheon at noon on April 24.

The program is in charge of a committee under the direction of C. D. Greason, Kansas City, Mo. An entertainment program is being arranged by a committee under Paul C. Ford, Kansas City, Mo.

CONVENTION CALENDAR

MARCH

Mar. 6-7 **Pacific Coast Gas Association Spring Sales Conference**
Los Angeles, Calif.

13-14 **A. G. A. Industrial Gas Sales Conference**
Lord Baltimore Hotel, Baltimore, Md.

17-18 **Oklahoma Utilities Association**
Tulsa, Okla.

17-18 **Wisconsin Utilities Association, Gas Section, Commercial and Technical Divisions**
Wisconsin Hotel, Milwaukee, Wis.

27-28 **New England Gas Association**
Hotel Statler, Boston, Mass.

27-28 **Pacific Coast Gas Association Spring Technical Conference**
Los Angeles, Calif.

APRIL

Apr. 1-3 **American Society of Mechanical Engineers, Spring Meeting**
Atlanta, Ga.

7-8 **Joint Accounting Conference A. G. A.-E. E. I.**
Cincinnati, Ohio.

14-16 **Mid-West Gas Association**
Hotel Nicollet, Minneapolis, Minn.

15-17 **Southwestern Gas Measurement Short Course, College of Engineering**
University of Oklahoma, Norman, Okla.

21-22 **Gas Meters Association of Florida and South Georgia**
Hollywood, Fla.

21-23 **A. G. A. Distribution Conference**
Pittsburgh, Pa.

23-25 **Missouri Association of Public Utilities**
Elms Hotel, Excelsior Springs, Mo.

24-25 **A. G. A. Hotel, Restaurant and Commercial Sales Conference**
Palmer House, Chicago, Ill.

29-May 1 **U. S. Chamber of Commerce**
Washington, D. C.

MAY

May 5-8 **A. G. A. Natural Gas Section Convention**
Adolphus and Baker Hotels, Dallas, Texas.

8-9 **National Metal Trades Association**
Palmer House, Chicago, Ill.

12 **National Fire Protection Association**
Toronto, Ont.

12-14 **Pennsylvania Gas Association**
Skytop, Pa.

19-21 **A. G. A. Production and Chemical Conference**
New York, N. Y.

20-21 **Canadian Gas Association**
Royal Connaught Hotel, Hamilton, Ontario.

22-23 **Natural Gas and Petroleum Association of Canada**
Hamilton, Ontario.

26-29 **National Association of Purchasing Agents**
Chicago, Ill..

JUNE

June 2-5 **Edison Electric Institute**
Buffalo, New York.

3-5 **Association of Gas Appliance & Equipment Manufacturers**
Ambassador Hotel, Los Angeles, Calif.

30-July 1-2 **Michigan Gas Association,**
Grand Hotel, Mackinac Island, Mich.

SEPTEMBER

Sept. 8-10 **Mid-West Gas School and Conference**
Ames, Iowa.

11-12 **Empire State Gas and Electric Association**
Saranac Inn, N. Y.

week of 28 **American Transit Association**
Chalfonte-Haddon Hall, Atlantic City.

OCTOBER

week of 20 **A. G. A. Annual Convention and A.G.A.E.M. Appliance and Equipment Exhibition**
Atlantic City, N. J.

Wins McCarter Medal

SYLVESTER A. SEAL, an employee of the Central Hudson Gas & Electric Corporation, Poughkeepsie, N. Y., was recently presented with a McCarter Medal for his outstanding act in the saving of human life by the Schafer prone pressure method of resuscitation.

The medal is awarded by the American Gas Association through its Accident Prevention Committee. It is made possible by the generosity of Thomas N. McCarter, chairman of the board of the Public Service Electric and Gas Co., Newark, N. J.

Roscoe C. Brown Dies

ROSCOE C. BROWN, who retired in 1938 as superintendent of the River Gas Company at Marietta, Ohio, died February 11. Mr. Brown had been superintendent of this company since 1923.

A native of Clarksburg, W. Va., Mr. Brown entered the employ of the Hope Natural Gas Company on June 1, 1907, and served that company or its affiliates for more than 30 years.

Southern Gas Association Elects Officers

H. Carl Wolf (right), newly elected president of the Southern Gas Association, and L. B. Denning, Jr., first vice-president of the Association, at the annual convention

H. CARL WOLF, president of the Atlanta Gas Light Company, Atlanta, Ga., and chairman of the Industrial and Commercial Gas Section of the American Gas Association, was elected president of the Southern Gas Association at its annual convention in Dallas, Texas, February 10-12. L. B. Denning, Jr., vice-president, Community Natural Gas Co., Dallas, was elected first vice-president and Frank C. Smith, president, Houston Natural Gas Company, was named second vice-president. L. L. Baxter, Arkansas Western Gas Co., Fayetteville, was reelected secretary-treasurer.

Joint National Accounting Conference To Meet in Cincinnati, April 7 and 8

E. N. Keller, Chairman, A. G. A. Accounting Section

THE Fifth National Accounting Conference of the American Gas Association and the Edison Electric Institute will be held at the Netherland Plaza Hotel in Cincinnati, Ohio, on April 7 and 8. Cincinnati is advantageously located to encourage attendance from both large and small companies in the West as well as the East.

E. N. Keller, Philadelphia Electric Company, chairman of the A. G. A. Accounting Section, and G. H. Bourne, The Commonwealth & Southern Corp., who heads the E. E. I. accounting committees, will direct the conference proceedings as co-chairmen. Assisting them in preparations now under way is a Planning Committee made up of company and staff representatives under the co-chairmanship of H. A. Ehrmann, Consolidated Edison Co. of N. Y. Inc. A. G. A., and L. A. Mayo, The Connecticut Light and Power Co., E. E. I. Members are, for A. G. A., H. E. Cliff, Public Service Electric and Gas Company; O. H. Ritenour, Washington Gas Light Company; J. A. Williams, Niagara Hudson Power Corporation; S. J. Barrett, The Peoples Gas Light and Coke Company; and L. L. Dyer, Lone Star Gas Company. For E. E. I., H. B. Hardwick, The Commonwealth & Southern Corp.; H. H. Scaff, Ebasco Services, Inc.; A. S. Corson, The United Gas Improvement Corporation; A. G. Mitchell, Philadelphia Electric Company; and F. B. Flahive, Columbia Gas and Electric Corp. The Planning Committee will conclude the final details of this two-day conference program about the time this issue of THE MONTHLY goes to press. A preliminary conference program will reach all companies about March 15th in which all scheduled conference activities will be outlined.

The program already developed promises plenty of material of current interest and importance to utility accountants. The high standard set at previous conferences will be maintained. Emphasis has again been placed on individual meetings of specialized groups which will be conducted along informal lines. This will insure a free exchange of ideas in accordance with the expressed preference of delegates at previous conferences.

H. C. Blackwell, President, Cincinnati Gas & Electric Company—Host to the National Accounting Conference

H. A. Ehrmann *L. A. Mayo*
Co-Chairmen, Planning Committee

A general session will be held Monday morning with Monday afternoon and all of Tuesday devoted to group meetings. Many papers will be presented at these group meetings, to be followed by open discussion in which all those present will be urged to participate. Informal "round tables" have been planned for many of these meetings, the procedure being to present selected subject matter in a five- or ten-minute planned discussion and then throw open the arena to all comers. There will be no dinner meeting.

Monday

The general session will open promptly at 9:30 A.M. on Monday, April 7, and close at 12 noon. Prominent speakers from the industry and from educational, professional and regulatory fields will be presented at this session when all the accountants will be together. Only lively and important topics of general interest will be included.

The specialized groups will go into action in earnest Monday afternoon. Individual meetings are planned for customer activities, including customer relations, customer accounting and credits and collections, depreciation, materials and supplies, plant records, insurance, taxation, regulatory problems, internal audits, budget control, manuals of procedure and other accounting activities. Most of the sessions will be open to all delegates.

G. H. Bourne, Chairman, E. E. I. Accounting Executive Committee

Tuesday

On Tuesday morning the assembled delegates will divide into two or three groups. Industry problems involving all principal phases of utility accounting will be discussed at these large group meetings. The sessions will be open, but their proceedings probably will not be included in any published proceedings relating to the conference.

Most of the conference work Tuesday afternoon will be done at luncheon sessions. About ten of these will be held, each one concerned with an important division of utility accounting. Discussion leaders will be appointed and the programs have been planned to afford accountants an opportunity to discuss frankly with their fellows the real problems of the industry.

Wednesday

Although all meetings will end Tuesday, the Planning Committee is now making arrangements so that delegates who wish may use Wednesday to visit the accounting plant of the Cincinnati Gas and Electric Company.

New Gas Building

GROUND was broken in Visalia, California, on Thursday, January 24, for the construction of a new Southern California Gas company business office and division headquarters building. Cost of the project, including land and building, will amount to around $100,000.

Human Elements of the Public Utility Business*

By BLACKWELL NEWHALL

The Philadelphia Gas Works Co., Philadelphia, Pa.

MOST of us quite rightly take utility service for granted. We have used the energy before we pay for it so that the company hasn't a ghost of a chance to repossess it, although the company once had a customer whose practice was to buy gas to take away with him—he was a balloonist who used to bring his balloon down to the gas works to get it inflated for ascensions.

Naturally, when a customer applies for gas service we ask if they have ever used our gas service. One customer answered, "Yes, once—when I had a tooth pulled."

Some years ago the gas company asked for a deposit from every customer in order to insure payment of the final bill, but in recent years flexibility was injected into the plan, with the result that instead of arbitrarily taking a deposit from everybody, the customers are now classified and deposits are requested only from the lowest rating. Since the customer earns his own rating according to his paying habits, this plan does away with the need of annoying ordinarily good customers by collection efforts. We pay 6% interest on such deposits, so it isn't surprising that some people don't want us to return their deposits. In a number of instances foreigners have come in and asked us to take large sums on deposit.

Coordination of Human Effort

In the gas business here in Philadelphia the gas company makes almost a million and a half contacts a month with the public. The coordination of human effort is tremendous because everything has to be timed to fit into the general picture of giving the public *what* it wants *when* it wants it.

The average customer pays $2.50 a month for gas. For this, part of the 2,700 employees are doing the following all day or night, all of the time: Making and delivering gas of proper characteristics and at the right pressure. Installing street mains, then service pipes from main to house, after which the meter has to be set and read correctly each month. Next, there are appliances to be sold, credit checked, deliveries to be made and appliances installed and serviced. Gas and merchandise bills have to be made out each month—almost half a million of them—and if not paid on time, money has to be collected. By team work it fits together nicely, but the occasional error is adjusted promptly and happily. It is later held up to the light to see what made it happen and thus prevent repetition.

We found it very helpful to finance our appliance sales through The Pennsylvania Company. This reduces the amount of working capital needed. Likewise, we formerly made loans to our employees for emergencies but have now found it much more satisfactory to have the employees make their own arrangements with the Corn Exchange National Bank, with which we have a convenient plan. The U. G. I. System has a savings institution of its own, which is the outgrowth of the World War Liberty Loan savings plan. It does not make loans to employees. There is an upper limit on the sum which an employee may have on deposit, the thought being that he would save by payroll deductions until he had acquired a sufficient sum to make some permanent investment. This institution also provides group life and disability insurance through a regular insurance carrier.

Appliance Servicing

Since the customer must have an appliance to use the utility product he is right in expecting the utility to give good service in keeping the appliances working satisfactorily day and night. Selection and training of men are vital factors in seeing that this service is available. New employees are put through an intensive educational course, of which a training school is a part. Retraining is continually carried on for both field and office personnel. A system is set up so the orders are handled promptly and tactfully and a good mechanical job is done by the right man who is sent out the first time. Sometimes you may be surprised that a gas man walks in so soon after you telephone for service. The answer is that he might have been telephoning into the office from a pay-station just around the corner from your house and received your job as the next one, so therefore drove right up to your door.

We have found that people who telephone us do not like to be told to wait a minute or to be transferred around from one person to another. They like to know what is going on at the other end of the line, so we have installed a three-way switchboard. You can hear the first person who answers gathering the data from others when necessary and definitely settling the problem in one handling.

It's funny how many times both the husband and wife will call in about the same thing, so we keep a carbon copy of the order at hand so as not to have more than one man on the same job.

Just as trust departments are involved in many intimate family affairs, so we are constantly studying home conditions so as to satisfy the man of the house that the new baby really does mean more use of hot water, extra washing, etc., or that the visiting relative is bound to have caused that slight increase in last month's bill. Incidentally, in counting the number of people in the house, each servant is counted twice because they are not apt to be as careful in the use of energy.

In connection with hot water heaters, I was amazed to discover that the first bath tub in England was in 1830, and in 1835 Boston had a law prohibiting bathing without a doctor's order. Some present day ideas are almost as bad. A customer told one of our men the other day that they never used any gas to heat water for bathing purposes. Upon further questioning she said that they ran a tub full of water in the morning and let it sit in the sun all day and took a bath in the evening.

As late as 1920 the lighting load was still 20% of the gas business throughout the country, so that many of us clearly remember using it, but to-day in our City, gas street lighting is only 2% while industrial and commercial uses are past the 21% mark and growing fast. Naturally, it was not so easy to convert the housewife from the coal stove, but three times we were helped by the human factors of one of our competitors; namely, the coal strikes of 1902, 1912 and 1925. These helped to establish the gas range.

Flexibility in Billing

There is a great deal of flexibility in billing for gas used for house heating. It was found advisable to arrange for the house heating customers to pay for house heating in ten equal installments. You can see the wisdom of this when you realize that for the month of January the average consumption is 21% of the whole heating season. This is particularly bad coming right after Christmas, so the budget payment plan has proved most welcome and popular.

One of the eastern gas companies recently employed Elmo Roper to make a survey from the customer relations angle. He proved that it is just as important to be considered a good citizen and neighbor as it is to keep the buyer and seller relationship right. Here in our city we believe in that idea. We also have a policy that each employee is a public relations department all by himself. When handling a problem in the field he has full power to complete it and is expected to do it in such a manner that he would be proud to see his method written up the next day in the newspaper.

During the years, another vital human factor has been the keen minds in the gas

(Continued on page 119)

* Part of address before Philadelphia Chapter, American Institute of Banking, January 22, 1941. Published as a contribution of the A. G. A. Customer Relations Committee.

1941 and Its Challenge to Salespeople

By C. L. Osterberger

Louisiana Power & Light Co.

C. L. Osterberger, chairman of the Southern-Southwestern Regional Gas Sales Conference, advises his audience to "sell their way out"

IT appears that 1941 threatens to be a year of "profitless prosperity" for our business and that we will have to work harder than ever before to earn a dollar. When one looks at the unsettled conditions ahead, it can be readily seen that we will have to organize our efforts more carefully than ever before to keep down costs, increase revenues and maintain profits.

Increased gross revenue resulting from increased sales volume is a prerequisite to sales success but it is not the final answer—It's net revenue that's important. Net revenue is what is left of revenues after the cost of obtaining them.

While the Sales Organization has only a part in the overall company picture insofar as increasing net revenue is concerned, we can materially help improve our net by continuous, intelligent selling of more and more gas services to more and more people at minimum sales expense.

Let's look at some major problems that affect net revenue and see what we, as salesmen, can do to improve our companies' "net revenue," thus meeting the challenge which faces every sales person today.

Some of the major problems ahead which constitute this challenge—(which is also an opportunity) are:

1. Continually increasing operating expenses, such as:
   —Increased taxes.
   —Increased payroll.
   —Increased cost of materials and supplies.
2. Competition will be greater and keener than ever before.
3. Real need for more intelligent, planned, and supervised selective selling of both our Company and its Service by all employees, at all times, (and especially by all salespersons) to all customers, in all classes, in increasing quantity.

These three problems are by no means all-inclusive but they will suffice for the purposes of illustrating the fact that our Sales Organizations have an opportunity and a responsibility to "sell our way out."

* * * *

Selling is the art of changing people's minds. It is well known that changes don't "just happen"—they are caused! We do know that change is inevitable—but without continuous, intelligent salesmanship, these changes are likely to be detrimental to our basic objective—selling the company and its services.

It has been pointed out that our selling job is a dual one involving (1) Selling more gas services to more customers in all classes, for more hours, in terms of customers' benefits, and (2) Selling the company rendering these services so that people will want to continue buying modern gas services from that company.

This selling job is difficult because it involves selling "service" and "company" both of which are intangibles. It's relatively easy to sell "things" as we all well know, but it requires imagination to sell intangibles. Selling of this type requires a knowledge of people—what makes them act—why they buy and why they don't buy. We know also that people don't like to be "sold" anything—they like to sell themselves but most people need help and skilled guidance in this mental process. Let's stick to sound basic selling methods, avoiding experimentation, and let's not forget the value of affirmation, repetition and contagion.

"Year 'Round Comfort—As You Like It"

By John K. Knighton

Servel, Inc.

RESIDENTIAL gas air conditioning is now a reality—and when I speak of product as well as the market for that product I must, of necessity, speak of the only product with which I am familiar—and to the best of my knowledge the only product now on the market as a commercially practical answer to the need for a gas-fired residential air conditioning system.

I speak of the Servel All Year Residential Air Conditioning unit—providing all the functions of real air conditioning twelve months of the year—efficient heating—controlled humidification—effective cooling—positive dehumidification—selective air circulation and thorough air cleaning. All in one, simple, compact unit—using gas—the ideal fuel—as a source of energy.

And now just a word about market and potential. The market is divided into two classifications—new construction—and existing construction.

Bearing in mind that the unit provides "all year" air conditioning—summer and winter—new construction is of first importance because heating of some form or another *must* be purchased. Here we have a prospect with a *demand* for heating and a *desire* for cooling; therefore, the selling job shouldn't be too difficult to convert the latter from "desire" to "demand." Then too, the technical aspects of application and installation are minimized when we are dealing with new construction. In determining the potential of this new construction market I think we can start at homes costing in excess of $7500.00—and today with all the clamor about low-cost housing it is fairly reliably estimated that there will be *100,000* homes built in 1941 costing $7500.00 or more.

The second classification of the residential market is that of existing construction. This is by far the greatest in number—but remember that public acceptance on the basis of "demand" has not yet been achieved—therefore, we should only assume as potential that part of the existing construction market that must replace an unsatisfactory heating system.

So again we have a prospect with a *demand* for heating and a *desire* for cooling. Then, too, by contrast with new construc-

tion, the market demands a keener appreciation of the technical aspects of application and installation.

Therefore, in the order of their desirability, with all things given consideration, new construction comes first and existing construction second.

Now, then, what are we going to do about it? This is a new business—a new activity—and as such it presents new problems—to you comes the problem of distribution—of selling and sales promotion, while we, as manufacturers, have the problem of design and production—and, as most of you may know, the latter—production—is assuming a significance out of all proportion with other problems due to our present international situation. Let's plan this new activity on a sound, factual basis—let's be certain that we put the right foot forward.

Deal Me In, Too

By CARL H. DEAN

Oklahoma Natural Gas Company

I PROPOSE that anyone discussing residential heating, preface his remarks with an outline of his viewpoint. Mine is the territory served by the Oklahoma Natural Gas Company, and particularly Tulsa, Oklahoma, a city of 150,000 people served by the Oklahoma Natural Gas Company, with 1050 B.t.u. gas, at forty-five cents a thousand cubic feet, through 36,000 meters. Our lowest recorded temperature is minus 17° F. but our average annual degree days total only 3600, yet our annual consumption per meter is well over 100,000 cubic feet.

It may occur to many of you that this situation is what you are striving to attain and that the Tulsa sales department now has an easy time. Don't forget that Tulsa brags of being "The Oil Capital of the World" and is surrounded with coal mines delivering coal to your door for $3.00 per ton. So, we have plenty of competition and the only way that we can obtain and retain this load is by constant preaching and teaching better and better utilization of our product. The situation is further complicated by the fact that the laws of Oklahoma prohibit utilities merchandising appliances. Whether this law is a curse or blessing is a moot question. But, in either case, it is not unmixed.

It may seem incongruous for an employee of a non-merchandising utility, attempting to present the attitude of an independent dealer towards utility merchandising. However, I feel particularly fitted to do this, since I was a heating contractor for more years than I care to mention and for several of those years served as president of the Sheet Metal and Warm Air Heating Association of Tulsa and I, therefore, know what the dealers say to each other in the privacy of their meetings. If all you really want is the independent dealers' opinion of utility merchandising, I can give it to you in four words: HE DOESN'T LIKE IT. His feelings are comparable to those of the utility man towards the government entering the utility business, if you know what I mean. It may be justified in some other territory, but never in his. * * * *

Assuming that I am a dealer do you know what I want? I want you to withdraw from the sale of my line of equipment, but continue your advertising of this merchandise. I want you to stop being my competitor and become my partner. I want the benefit of your superior engineering knowledge and when unforeseen difficulties arise in the application of new equipment, I want you to use your weight with the manufacturers to get the answer quick. I know that the customer will respect the advice of your engineers more when they are not peddling equipment. I know that you are in touch, through your associations, with the entire gas industry and that you should have, if you do not have, a clearing house where such troubles, as I am having, have been worked out and the answers are available. I want you to act as referee or judge and to be as impartial as is humanly possible. I do not ask you to do my engineering, in fact, I prefer that you do not make layouts as that will bring speculators into the business depending on your engineering. If you will do these things, I will in turn, place all my efforts behind the products that you want sold, for you can give me more cooperation than I can ever expect to receive from the purveyors of other fuels. You, as sales manager, may not consider me as a competitor, but let me tell you that your salesmen do. * * * *

We, of the Oklahoma Natural Gas Company, do not want to make too much of a virtue of necessity, but it is true that we are often forced to do that which best promotes our growth. During the last three years, through intelligent whole-hearted cooperation with independent dealers, there have been sold in Tulsa 9,164 floor furnaces and 1,309 gas fired central heating systems, all bearing the approval of the American Gas Association Laboratories. As a matter of curiosity, I would like to know if this is a high or low record, when compared with the records of equipment merchandising utilities.

On this and the preceding page are abstracts of some of the papers presented at the 1941 Southern-Southwestern Regional Gas Sales Conference held February 10-12 at the Adolphus Hotel, Dallas, Texas, in conjunction with the annual convention of the Southern Gas Association. Sponsored by the Residential Section of the American Gas Association, the meeting was directed by C. L. Osterberger, Louisiana Power and Light Co., New Orleans, La., chairman of the conference. It attracted a large attendance and brought out valuable discussion of current domestic gas problems.

Self-Respect in Every Gallon

By J. H. WARDEN

Gen. Sales Mgr., Oklahoma Natural Gas Company

J. H. Warden

WHAT a story we have to tell on the use of hot water—150 uses for hot water and only 10 for cold—and in order to get the tenth use for cold water, they use it for tempering the hot.

The three fundamental buying urges which result in the sale of practically all items are health, comfort and entertainment. The radio industry has been built upon the one buying urge of entertainment. Inner spring mattresses upon comfort. Many others on health alone. With water heaters, we have two of these fundamental buying urges upon which to build. What greater story can be told than a story in connection with hot water and health? You can take practically all of the "scare" advertising that has sold billions of dollars worth of soaps, tonics, perfumes, etc., for the prevention and correction of everything from B. O. to Athlete's Foot—replace the article advertised with plain hot water and get better results.

Human nature is a funny thing—the same fellow who delights in smearing his face with the rouge from a pretty girl's lips will raise a mighty squawk if he finds a small speck of that same rouge on a glass handed to him at a restaurant. This situation offers a wonderful opportunity to build water heater sales through the story of its use for sterilizing dishes.

Beauty treatments which are fundamentally a combination of health and comfort offer an unlimited field for use of hot water. Take all of the advertising and all of the stories that are told in connection with the thousands of articles sold to make beauty every woman's possession and substitute the use of hot water, and you would get twice as good results.

There is no greater comfort than hav-

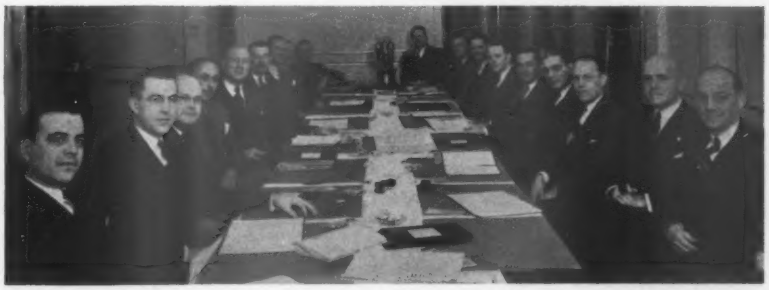
ing hot water on tap at all times for those 150 uses.

A person would logically ask, if all this be true, why is it that the water heater has lagged behind the sale of other appliances. The answer is simply that you cannot hide your light under a bushel and expect it to be seen. We have been trying to sell water heaters and forgetting the hot water service.

A survey which we made in our territory showed that a great many of the dealers in water heaters did not even look upon a water heater sale as a means of making a profit, but simply as a means of so many hours work on the installation of the appliance. They were content to install the cheapest heater possible in order to keep down their stock investment and cost of handling. Not a word about the value of the hot water service was mentioned, but we have positive proof that when this story of the value of hot water for health and comfort is told, and people experience it, then it does mean something.

We started a campaign in a very minor way with a slogan "Before you Rent, Build or Buy, be sure that the house is equipped with modern automatic hot water service." We know that even this little effort produced results. You might be surprised to know where our information came from. It was from the agent of an insurance company who handled a great deal of rental property. He complained that our campaign had caused him trouble in renting houses that were equipped with old fashioned non-automatic water heaters.

Refrigeration Sales Campaign Forges Ahead with Record Entries



Around the conference board, members of the A. G. A. Refrigeration Committee discuss third quarter plans in the committee's year-'round gas refrigeration sales campaign. Chairman B. T. Franck is at the head of the table

THE mid-winter meeting of the American Gas Association Refrigeration Committee was held January 30 at the Deshler-Wallick Hotel in Columbus, Ohio, to review activities to date in the gas refrigeration campaign since it began October 1, 1940, and make plans for the third quarter period of April, May and June.

Members from all parts of the country attended the meeting which was presided over by B. T. Franck, chairman, and vice-president of the Milwaukee (Wisc.) Gas Light Co. Mr. Franck stated that this year's gas refrigeration campaign has developed an unusually high pitch of interest. To date this year, more than 513 companies throughout the nation have registered. These companies also have registered over 4,500 salesmen. The total number of gas meters represented by the registered companies was reported to be more than 13,000,000. This establishes a new record in all categories.

George S. Jones, Jr., vice-chairman of the committee, and vice-president and general sales manager of Servel, Inc., reporting on the progress of the campaign in various parts of the country, said that the increasing sales of gas refrigerators is proof that the gas industry is supporting year-'round sales of this appliance.

W. C. Wolff, domestic sales manager of The Brooklyn (N. Y.) Union Gas Company, was appointed by Mr. Franck to head a sub-committee to study the replacement sales market.

Plans for the "Servel Annual Best Performance Award" which in last year's campaign was signified by the memorable Bermuda flight, were made and will be announced at the time the third quarter's portfolio is released. Plans for the April, May and June quarter will be announced to the gas industry about March 15.

The next Refrigeration Committee meeting will be held early in June.

Range Representative

STANDARD Gas Equipment Corporation announces the appointment of Wendell P. Ford to represent it on domestic range sales in Western Pennsylvania, Eastern Ohio and West Virginia.

Mr. Ford replaces Walter Sealander who covered this territory for many years and has now retired.

Mid-West Sales Meeting Attracts Over 700

More than 700 persons, the largest attendance ever registered for a Mid-West Regional Gas Sales Conference, participated in this fifteenth annual event at the Edgewater Beach Hotel, Chicago, Ill., February 17 and 18. Under the direction of Elliott G. Peabody, Citizens Gas and Coke Utility, Indianapolis, chairman of this group, the meeting explored all phases of the domestic gas sales picture. It was one of the most successful held under the sponsorship of the Residential Section of the American Gas Association.

Lack of space prevents coverage of this meeting in this issue of the MONTHLY, but extracts of available papers will be presented in the April issue.

CP's The Key

By J. R. GUIDROZ

New Orleans Public Service, Inc.

WHEN the homemaker—the person who really pays our salaries—is sold on the Certified Performance of her gas range, she is sold on the speed, efficiency, convenience and economy of gas. Only then will she want gas not just for cooking and water heating, but gas for refrigeration, gas for heating, and gas for year 'round air conditioning.

CP is the key to your success too, Mr. Salesman. You have a marvelous sales story to tell, backed with proof and truth and above all, you have a complete and immeasurable satisfaction in a job well done! You do your customer a favor when you sell CP, the best cooking service that money will buy. Of course you realize this and when you ask your prospect "You want a CP Range, don't you, Mrs. Customer?", her answer invariably gives you an opportunity to explain the many advantages of this range.

Study the many features offered in a CP Range and you will see that here is something you can really take hold of and talk about with confidence and enthusiasm. When you stumble against price remember that for a product that is well sold and offers so many benefits, price is no barrier to a customer's acceptance. For example, millions of automobiles are being traded every two or three years by people who are sold on the advantages of being modern and up-to-date. Let's all sell CP, the modern and up-to-date range, the same way!

"We in America produce 92% of the world's natural gas not counting the speeches of Senators and Congressmen on saving Democracy."—*Theodore Dreiser* in book "America Is Worth Saving."

Industrial & Commercial Gas SECTION

H. Carl Wolf, *Chairman*
George F B. Owens, *Vice-Chairman*
E. D Milener, *Secretary*

Your Part in Our Industrial and Commercial Gas Publicity Program

By Harry W. Smith, Jr.
Director, Industrial Publicity, American Gas Association

THE latest 1940 report of the Advisory Committee on Publicity of your A. G. A. Industrial and Commercial Gas Section expressed the purpose and reason for existence of our Industrial Gas Publicity Program as follows:

"To help sell industrial and commercial gas through the medium of the printed word and illustration in the editorial columns of the trade, technical and business publications read by industrial and commercial gas customers and prospects, and the non-residential gas fraternity."

Note that opening phrase, "To help sell"! And just to make sure the thought was plain, the report added after another sentence or two: "—but no activity of your Industrial Gas Publicity Department is permitted to stray from the objective of helping to sell non-residential gas. That's what makes our Publicity Program work."

No policy could be more explicit. All the 12,000 column inches of first-class business paper editorial space which are annually filled through A. G. A. Headquarters with news, facts and ideas about gas-in-the-service-of-industry, are filled for your benefit. All the pencils and typewriters and cameras and manpower needed to produce the volume of industrial gas publicity summarized in the report displayed across the page, are working *specifically to help you sell.* The question is: "Are they succeeding?"

From reactions we get daily, we feel that there is no doubt of it. We know of sales which have been started, stimulated or settled through publication of your A. G. A. Industrial Publicity. We've collected a healthy file of "thank yous" from utilities, manufacturers, gas users, and the business publications themselves. We've even figured it all out in terms of "printed sales talks" and found that, each year, our publicity and advertising programs together make more "sales calls in print" on industrial and commercial gas prospects than all the non-residential gas salesmen in the United States make "sales calls in person." And through reports, conference papers, displays and presentations we've explained many times just what we've done and hope to do to make your industrial and commercial gas publicity "carry a brief case."

But right now we're concerned only with *you*! What part can *you* play in the A. G. A. Industrial and Commercial Gas Publicity Program?

You Can Help Make Our Publicity Fit Your Special Objectives

First, you can *help* us in making our program bigger and better and more effective *from your standpoint.* Among your very own customers and prospects must be scores who read *Iron Age,* or *Business Week,* or *Bakers' Helper,* or *American Restaurant,* or *Food Industries,* or others of the 141 serious trade publications which more or less regularly publish news, features, reports or data contributed by your A. G. A. Industrial and Commercial Publicity Department. The more thoroughly you help us to service the editorials staffs of these media, the more you help to tell *your* story to *your* prospects. The more *you* contribute to our Publicity Program, the more it concerns the subjects, points-of-view, markets, and equipment in which you are most interested.

Just how can you help? That's easy. There are lots of ways. Should you be inclined to write up the use of gas by a plant in your territory, report a novel application you have worked out with a customer, or describe a trend in gas utilization which you sense among the restaurants or garages on your lines—your Industrial Gas Publicity Department at A. G. A. Headquarters will be glad to help you place your copy—not just with one gas-industry magazine, but in four or five national media. It's our job to know personally the editors of hundreds of the best trade, technical and business papers and just what each is looking for. For example, two reports submitted by Jimmy Dare of Public Service Co. of Northern Illinois, concerning, respectively, a survey of baking and drying installations in his territory and the experience of a food storage locker plant with gas-fired lard-rendering and meat-smoking equipment, were placed by your Industrial Gas Publicity Department, and resulted in no less than eight full-length stories in these magazines: *Steel, Industrial Heating, Industrial Gas, The Locker Patron, Quick Frozen Foods, Gas Age,* and *American Gas Journal.*

As far as style is concerned, don't worry about it—don't try to be an author. Just tell the story the way you would to another prospect. Dictate it if you wish. We'll do any "editorial Christmas-tree-trimming" which may be necessary and check with you if any changes are made. In fact, it's O.K. simply to write us a three-page letter containing the facts, so long as you cover the information and angles another gas *user* would be interested in, and temporarily forget that you're a gas salesman.

Suppose you have a few installation photos, but not enough technical information and testimonial copy to make "a story." Send it on anyway. A good lively photo which shows engineering features, plus only 50 words of caption, makes a corker of a publicity story, and is easier to place than the average full-length feature.

Even a tip-off as to where a good story lies (and what you think makes it worth writing up) constitutes help in making our Publicity Program fit your sales objectives. You'd be surprised how many feature articles on industrial and commercial gas utilization result from a chat with the editor of, say *American Machinist,* and the chance comment, "Say John, we hear that Blank Company of Somewhere, Ohio, is flame-hardening automotive gears with city gas by means of a tricky new set-up which has added 25% to production and saved 50% in floor space. How about having your western man drop in and see both the subject company and Joe Doaks of the Such-and-such Gas Company?"

Yes sir, every one of the 500 stories your A. G. A. Industrial and Commercial Publicity Department handles each year helps you on your home grounds *somehow*—but the more of those 500 features *you* help us to get published, the more *directly* does the program benefit your markets, your company and yourself.

Let's hop on to our second point. How can you *cash in on* the A. G. A. Industrial and Commercial Publicity Program?

You Can Use Published Material in Making a Sale

After any good pro-gas story appears in a trade, technical or business publication read by certain of your prospects, you can do a lot. You can drop in on a prospect with a copy of the magazine under your arm, or you can mail the clipping to him with red-pencil designations to draw the

eye to points "made in print" which fit in with your sales blitz-plan. A metal industry prospect might discount a point you make as a salesman, but believe it word-for-word if he reads it in his own magazine, *Steel*, and realizes that another firm in an allied enterprise (as well as the editor of the magazine) considers the point important enough to broadcast.

And how about buying 50 or 100 reprints of a good article on what gas has done for a baker in Iowa, then writing a to-the-point sales letter to accompany the reprint in a mailing to all the bakers in your territory? That's direct-by-mail advertising the inexpensive way—someone else has already done your printing. The Industrial and Commercial Gas Section, on occasion, mails you reprints of outstanding articles or features it thinks will help you to sell. But that's only the beginning. *If you regularly read your customer's magazines,* you'll find more opportunities than you can shake a stick at for letting the great American industrial press sell for you.

By all means keep a file, record or sales-portfolio of helpful articles. The American Gas Association annually mimeographs an imposing "Selected Bibliography of Articles and Reports on the Industrial and Commercial Uses of Gas" to help you in this connection. In addition, your Industrial and Commercial Publicity Department keeps complete classified scrapbooks of every clipping it is responsible for. You are welcome to borrow them or inspect them at Headquarters. The man who *uses* published material to help him sell has hundreds of ready, authoritative "assistants" working without pay. And, of course, the man who collects files and bibliographies, but doesn't use them, is wasting his time.

Nor is all our publicity aimed at the customer or prospect. Some of it, you know, is directed at you. We figure that if Larry Wagner in Providence has a customer with a bright idea worth reporting to prospects in your territory, it's only fair and helpful to let you have the facts before your customer gets them. That's why 44½% of our publicity is addressed to the gas industry itself—to you. Therefore, you can cash in on the program by regularly reading the industrial and commercial features in the gas magazines: A. G. A. MONTHLY, *Gas Age, American Gas Journal, Gas, A. G. A. E. M. Bulletin,* and *Commercial Gas Salesman.* Anything hot we place with the papers your customers read will also appear in the gas industry press.

And finally, we've set up, right here in the A. G. A. MONTHLY, a forum page for you. It's called "Going Ahead with Industrial Gas." Don't just read it; use it. Every squib in it is designed to give you a constructive idea or an interesting thought —right up your own alley. And you are

(Continued on page 119)

The Amount of Editorial Publicity We Get

This year 479 articles, features or items, illustrated by 708 photographs, tables or drawings, were published in the trade, technical or business press as a result of your Publicity Department's activities. In total, they amounted to 12,847 column inches of editorial publicity—all concerning non-residential gas applications or doings of the industrial gas fraternity. Last year the corresponding totals were 476 articles, features or items, illustrated by 707 photographs, tables or drawings—and amounting to 10,692 column inches of publicity. Further, it is estimated that our clipping procedure fails to find 20 to 25% of the published items stemming from your Industrial Gas Publicity Department's activity.

Of the 12,847 column inches of clipped and measurable editorial publicity thus obtained this year in behalf of industrial and commercial gas sales: some 5,678 column inches (or 44 per cent) appeared in leading business, trade or technical publications (mostly national) independently edited for and read by important classes of customers and prospects all over the country; some 1,441 column inches (or 11¼ per cent) appeared in magazines especially edited to contain nothing but non-residential gas news and appeal at once to several important types of industrial or commercial customers and prospects; and some 5,728 column inches (or 44½ per cent) appeared in magazines addressed to various interests within the gas industry itself. Thus, some 55½ per cent of our publicity helped to sell industrial gas by talking directly with the customer or prospect through the medium of *his own* trade, technical or business publication, while 44½ per cent helped to sell industrial gas by disseminating valuable information throughout our own industry.

With respect to the media in which all this publicity was used, a list of the 141 publications which we know to have published our material during the 1939 and 1940 Association years is appended to this report (the two-year period being used because specific magazines were not credited in last year's report). The media used just this year number 105 publications excluding daily newspapers: 73 of them being in the trade, technical or business magazine classification; 5 in the classification edited by the gas industry for its industrial and commercial customers; and 27 in the gas-magazine-for-the-gas-industry classification.

Thus the following 29 commercial and industrial reader-interest groups* were reached: Gas Industry, General Utility (13); Metals, Metal Manufacturing (11); Utility Company Employees (8); General Manufacturing, Plant Maintenance and Operation (7); Power (6); Heating, Air Conditioning, Refrigeration (5); Restaurant (5); Plumbing, Contracting (4); Horticulture, Poultry, Farming (4); Chemical, Drug (4); Regional Gas Association (4); Food Manufacturing, Confectionery, Packing (3); Baking (3); Sales, Advertising (3); Hotel (3); Paint, Industrial Finishing, Plating (3); Retailing, Soda Fountain, Chain Store (3); Mining, Oil, Mineral Products (3); Machinery, Mechanical Engineering (2); Institutions, Hospitals, Schools (2); Ceramic (1); Marine, Fishing (1); Gas Equipment Manufacturer Employees (1); Textiles, Shoes, Jewelry (1); Printing, Paper (1); Business, Financial (1); Hardware, Toys (1); Automotive, Garage (1); Municipal (1)

* Numbers in parentheses indicate number of magazines used in each field.

A self explanatory excerpt from the 1940 Report of the Advisory Committee on Industrial and Commercial Gas Publicity, Harry A. Sutton, Public Service Electric & Gas Co. of New Jersey, Chairman

Hotel and Restaurant Sales Conference To Chart Load-Building Paths

A PRELIMINARY peek at the program being shaped up for the 1941 A. G. A. Hotel Restaurant and Commercial Sales Conference, scheduled for the Palmer House, Chicago, Thursday and Friday, April 24-25, shows that the Industrial and Commercial Gas Section of the American Gas Association is "loaded for bear" when it comes to ways and means of cashing in on the improving business of the country's commercial establishments—particularly those engaged in quantity cookery. And few fields for gas sales present greater possibilities for load development at profitable rates, good load factors, large individual customer billings, and uniform geographical distribution.

Already enough headliners are signed up to demonstrate the value the program will deliver to the executives, sales managers, commercial gas salesmen, and manufacturers who will attend. For example, *Paul Moore,* president of the John R. Thompson Co. (Thompson's national restaurant chain), will be on hand to delineate trends in "Modern Food Service" from the restaurateur's point of view. *F. X. Mettenet,* vice-president in charge of sales for The Peoples Gas Light and Coke Company, will handle "Views On Hotel, Restaurant and Commercial Gas Sales" from the utility management side.

Successful case histories in load-building will be described by *E. V. Fineran,* Washington Gas Light Company, under the title, "The Campaigns of Washington—Cooperative Load Builders"; by *R. D. Maxson,* Public Service Co. of Northern Illinois, on "Building Gas Load Through New Outlets"; and by *J. B. Druse,* Milwaukee Gas Light Company, who will interpret "Business Opportunities in the Corner Bakery."

A feature contribution to the meeting will be made by the A. G. A. Food Service Equipment Committee, whose chairman, *Lester A. Dubberke* will present the committee's findings and analyses to date. The entire committee will subsequently participate in the skit, "After Adjournment," in order to air a hundred and one interesting sidelights on hotel, restaurant and institutional gas sales problems not covered by formal papers. The manufacturer's outlook will be expressed by *Watson E. Derwent,* president, Association of Gas Appliance and Equipment Manufacturers, and vice-president of George D. Roper Corporation. *George S. Jones, Jr.,* vice-president of Servel, Inc., will, under the sponsorship of the A. G. A. Commercial Gas Refrigeration Committee, project "Commercial Gas Refrigeration in 1941."

On the technical side will be "Is There Excess Heat in Restaurants?—An Analysis of Recent Studies," by *C. George Segeler,* engineer of utilization, American Gas Association; a paper on "Progress in Miscellaneous Commercial Gas Equipment"; and informal round-table information sessions on "Commercial Ranges and Broilers," "Volume Water Heating and Steam Uses," and "Counter Appliances."

One of the two featured luncheon speakers will be the well-known *Floyd W. Parsons,* editorial director, Robbins Publishing Company. The other will be a top executive of a major-city gas utility. In addition, a fuel display of gas-fired counter and other specialized food service equipment will be held.

Presiding over the sessions will be *H. Carl Wolf,* president, Atlanta Gas Light Company, *George F. B. Owens,* assistant vice-president, The Brooklyn Union Gas Company, and *T. J. Gallagher,* manager of commercial gas sales, The Peoples Gas Light and Coke Company—respectively the chairman, vice-chairman, and Program Committee chairman, of the A. G. A. Industrial and Commercial Gas Section. Through the courtesy of the Hotel, Restaurant and Commercial Division of the Association of Gas Appliance and Equipment Manufacturers, *Stanley E. Little,* division chairman. Receptions in the Gas Equipment Friendship Room will be sponsored in connection with the conference.

Last Call for BALTIMORE

and the

1941 Conference on Industrial Gas Sales

•

Sales Ideas, Promotional Methods, Utilization, Research, New Developments, and, of course, Entertainment . . . . for the Executive, the Sales Manager, the Industrial Gas Salesman, and the Manufacturer.

•

LORD BALTIMORE HOTEL
Baltimore, Maryland
Thursday and Friday, March 13-14

Midwest Industrial Gas Council Holds Annual Session

By PAUL F. GIBSON

Western United Gas & Electric Co., Aurora, Ill.

George L. Ballard

GEORGE L. BALLARD, Panhandle Eastern Pipe Line Co., Springfield, Ill., was elected chairman to direct the activities of the Midwest Industrial Gas Council of the Industrial and Commercial Gas Section, A.G.A., for the year 1941 at the annual meeting held at the Palmer House, Chicago, on February 7. Mr. Ballard, long associated with the industrial phase of the gas industry, was unanimously elected to succeed Nelson Gorsuch, outgoing chairman of 1940. James E. Dare, Public Service Co. of Northern Illinois, Streator, Ill., was elected vice-chairman, and for the fourth consecutive year Paul F. Gibson, Western United Gas & Electric Company, Aurora, Ill., was chosen secretary-treasurer of the organization.

Rounding out a very successful year in matters of membership, attendance and activities, 1940 Chairman Gorsuch, together with his assistants, committee chairmen and committees were given a vote of hearty appreciation.

During the course of the day's meeting 100 members and others were in attendance. Various important committee reports, including the following, were presented: Competitive Fuels, Luminous Flame, Program and Publicity.

O. M. Olsen, Sellers Engineering Company, Chicago, presented a paper on "The Principles of Immersion Heating." This presentation covered fully the engineering phases leading up to this highly efficient method of gas utilization.

Following lunch, D. A. Jacobson, field engineer, Burdett Manufacturing Company, gave the organization some startling facts concerning paint drying and industrial finishes with infra-red ray gas burners. Any drying operation that has been accomplished with the infra-red lamp can be accomplished with the gas apparatus, he declared. In any phase of the industry, where speed is definitely the goal, gas equipment is superior, and without changing the fabrication of the paint. With economically advantageous results every conceivable competition has been met.

W. R. Caple, district sales manager, The Dow Chemical Company, in an extemporaneous talk, discussed the "Properties and Uses of Present Day Magnesium Alloys."

Stand up and take a bow, Jim Wilson, United Gas Corporation, Houston, Texas—for "Going Ahead's" March sales literature honors. Your illustrated 48-pager, "Helpful Data for the Plant Operator," should be begged for by customers and prospects alike—because of its 27 pages of engineering tables; its good taste in extolling steam generation, heat treating, engine power, space heating and air conditioning, by gas; and the fact that each copy is personally delivered by your district managers and their men.

♦

Whatever your special interest, it's bound to be covered at the Baltimore Industrial Sales Conference this month—no less than 29 speakers have been rehearsing before the mirror, just for your benefit.

♦

Whoops, m'deah! It's too, too devastating the way those handsome air conditioning boys understand spring. Whatever *could* we do without those precious lillies-of-the-valley and dear, darling tulips?—and with Holland simply *ignoring* us this Easter! Well, I heard at Bonwit's (I wouldn't be seen in another shop, you know) that those sweet men have found a way to reproduce Holland's weather anywhere—and we can have those *gorgeous* blossoms anyway.

Speaking of thermostats, remember that the trend toward heat-controlled gas counter griddles needn't necessarily mean a new appliance. It's not a tough job to convert a serviceable old hot-plate with a thermostat. The diner trade (55,000 eateries in the U. S. do less than $16 business per day) will cotton to the idea.

♦

Defense-fever means new men in fuel-buying and equipment-buying positions in your territory, particularly in the new plants. Do you know the "new faces" in your area by their first names yet?

♦

Way back in 1938 we were told that no one made *continuous* gas-fired doughnut machines. Since then we've announced two models in this column (by Peerless Brands of Philadelphia and Joe Lowe Corp. of New York). A baker tipped us off to one by Bear-Stewart of Chicago. And now we receive an announcement of a 400-500 dozen-per-hour job by F. W. Stock & Sons of Hillsdale, Michigan. That's not going backward!

♦

Happy First Birthday to the only independent publication edited specifically for our hotel, restaurant and commercial gas bird-dogs, COMMERCIAL GAS SALESMAN. Our eye is peeled for Volume 2, and your new indexed-for-use advertising section.

♦

Out of every nine publications of industrial gas stories handled by your A. G. A. Industrial and Commercial Publicity Department: four appear in national trade, technical or business papers (to sell an idea to your prospects); one appears in Industrial Gas or the Fenton Kelsey series (for you to use as direct-by-mail advertising); and four appear in the gas magazines (to tip you off to a job, an idea, or a useful file of data).

♦

Put in your portfolio, after you've read them yourself: "Industrial Controlled Atmospheres," Norbert K. Koebel, THE IRON AGE, Nov. 21, pp. 33-9, Nov. 28, pp. 40-6, Dec. 5, pp. 45-51, Dec. 12, pp. 48-53; "Summer Cooling in Research Residence with Gas-Fired Dehydrator Cooling Unit," A. P. Katz, S. Konzo, E. L. Broderick, HEATING PIPING & AIR CONDITIONING, December, pp. 727-35; "Recirculating Air Heating Applied to Ceramic Drying," Roy Hummel, Robert Twells, BULLETIN OF THE AMERICAN CERAMIC SOCIETY, November, pp. 434-7; "How To Establish, Equip and Operate a Retail Bakery—Ovens," George Chussler, Jr., BAKERS WEEKLY, November 16, pp. 38-40.

INDUSTRIAL AND COMMERCIAL NATIONAL ADVERTISING FOR MARCH

The National Advertising Committee of the Industrial and Commercial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the trade and business magazines listed below during the month of March. These advertisements, which will appear in 16 publications reaching a total audience of 288,587, are prepared in cooperation with the Committee on National Advertising as a part of the Association's national advertising campaign.

General Manufacturing

BUSINESS WEEK (Mar. 8—⅔ page ad)—"Are you worried by SLOW-MOTION production? . . . use modern GAS equipment . . . to speed production, increase output."

Ceramic Industry

CERAMIC INDUSTRY—"The trend to GAS for all ceramic firing is a trend to bigger profits." (General Ad.)

Food Industry

FOOD INDUSTRIES—"Another high quality product is kept up to standard with modern GAS equipment"—Reymer & Bros. Candies, Pittsburgh, Pa. are heat-processed with GAS.

BAKERS' WEEKLY (Mar. 1)—"Modernity was the Krohner idea . . . and, naturally, that called for GAS!"—the experience of a Connecticut bakery with modern GAS ovens.

Metals Industry

THE IRON AGE (Mar. 13)—Clean hardening *without scale or decarburization* made possible with GAS
STEEL (Mar. 3)
METALS & ALLOYS
METAL PROGRESS
INDUSTRIAL HEATING
HEAT TREATING & FORGING
prepared atmosphere—Vlchek Tool Company, Cleveland, Ohio

Restaurant Field

AMERICAN RESTAURANT—"It pays to cook with GAS"—says M & M Cafeteria, Miami, Florida—one of the finest in the South.

CHAIN STORE AGE (Fountain and Restaurant Section)—Chain store food peaks are handled easily . . . and profitably . . . with modern GAS cooking equipment.

Hospital Field

MODERN HOSPITAL—"Performance Grand" says Mr. Norton McKean, Board President of the Albany Memorial Hospital, Albany, N. Y., about their modern GAS ranges.

Processing Field

CHEMICAL AND METALLURGICAL ENGINEERING—Parke, Davis & Company use GAS-fired ovens for dry-heat sterilization in their Detroit, Michigan, plant.

Technical SECTION

D. P. Hartson, *Chairman*
Harold L. Gaidry, *Vice-Chairman*
A. Gordon King, *Secretary*

A New Type of Steam Decomposition Meter

By W. J. Putnam and D. V. Moses

Ammonia Department, E. I. du Pont de Nemours and Co., Belle, W. Va.

IN the operation of a water gas generator, the per cent of steam decomposition, when obtainable, has always been an important and desirable item in any data collected for judging the performance of the set. Wherever a reliable measurement of both process steam feed and water gas produced is available, it is obtained by a simple calculation but, in a plant of several generators where individual set performance is studied, individual measurement of the gas produced on each unit is usually not feasible. Such a procedure would involve multiplication of primary scrubbers with undue gas main and holder complications. The intermittent and fluctuating cyclic gas flow would impose difficult, if not impossible, working conditions for the standard orifice meter. Consequently, direct determination of steam decomposition by examination of a representative flowing sample of the gas plus undecomposed steam is the logical alternative. Several methods of accomplishing this have been proposed and developed, notably the Benesh* and the Koppers† types of steam decomposition meters, as well as a thermal conductivity method, proposed and investigated by Logan‡ about 1929. Recently, the development of the small rotameter presented an opportunity for devising a new type of steam decomposition meter which is believed to afford attractive features of design simplicity and reliability.

Principle of Operation

Sampling conditions are especially severe in the direct determination of steam decomposition, seriously limiting the range of choice of methods. Although the rate of steam fed to the generator is usually constant over the steaming portion of the cycle, the rate of flow of resulting gas plus undecomposed steam diminishes very markedly over the same period. This is caused by the rapid drop in steam decomposition as the cycle progresses and is further accentuated by the accompanying fact that one volume of steam yields roughly two volumes of water gas upon decomposing. This condition rules out any method of determination based on a constant rate of residual gas flow (after condensation of undecomposed steam) because resulting flow of steam-gas mixture *before* condensation would be greatest for the low steam decomposition levels, a condition directly contrary to the rate of flow of the mixture in the gas main which is lowest at the low decomposition levels. Moreover, accurate measurement of condensate for short increments of cycle time, such as needed for tracing the decrease in decomposition over the cycle, would be extremely difficult.

Likewise, a constant rate of sampling the gas-steam mixture would result in gross error unless the run period were divided into a number of very short sub-periods with a separate decomposition determination for each sub-period followed by either plotting of these points to form a curve or by averaging to give an average per cent decomposition for the whole run. This sampling fundamental restricts the method of determination to a rapid series of observations spaced over the run equally and would seem to rule out anything but a dynamic type of instrument capable of providing such observations over the short space of one gas-making cycle.

The instrument described here provides a means of obtaining these observations in the form of measurements of the volume rates of flow of the steam-gas sample, maintained at 100° C., and of the residual gas in the sample after the removal of the steam by cooling and condensation. An observation of the flow rates is taken at intervals of five seconds over the run and after the necessary corrections for barometric pressure, temperature, and water vapor tension in the residual gas, the steam decomposition, either for each five second point or for an average of the whole series, can be calculated by an equation involving a hydrogen balance between steam and gas, as follows:

Per cent steam decomposition =

$$\frac{(V_2)\ (H)\ (100)}{V_1 - (V_2)\ (1 - H)}$$, where:

V_1 = Rate of flow of steam plus gas sample, corrected to 0° C. — 760 mm. Hg.

V_2 = Rate of flow of residual gas after condensation of the steam, corrected to 0° C., — 760 mm. Hg and for water vapor tension.

H = Volume % in residual gas expressed as a decimal fraction. This may be obtained from an analysis of the residual gas sample, collected at the exit of the instrument, or, where a possible small error is permissible, an assumed figure can be used from previous gas analyses.

This equation is valid regardless of the extent of participation in the decomposition of either of the fundamental water gas reactions:

$$C + H_2O \rightarrow CO + H_2$$
$$C + 2H_2O \rightarrow CO_2 + 2H_2$$

This method cannot be used where coal is used as a fuel or where oil injection is employed since either introduces hydrogen from hydrocarbon sources and thus interferes with establishing the hydrogen balance from steam.

The flow rates are obtained from two calibrated glass rotameters, one for the steam plus gas mixture, the other for the residual gas after condensation. The instrument consists of two main parts, as follows:

1) A constant temperature bath for the purpose of insuring that the steam plus gas mixture is maintained at 100° C. during its transit through the sampling pump and through the first rotameter. This is accomplished in a cubular, insulated tank partly filled with water held at the boiling point by electric immersion heaters. The sample is drawn through a tubular coil in direct contact with the boiling water and into the pump which is housed in a small cubicle projecting into one wall of the bath. From the pump, the sample goes through another tubular coil in the boiling water and thence into the first rotameter, housed in a cubicle in the bath fitted with a glass front for reading the rotameter. The use of the two heating coils provides insurance against any appreciable temperature drops in transit through the pump and rotameter cubicles, which are heated on only three sides.

2) A separate unit for the condensation of the steam in the sample, containing a tubular coil immersed in cold water and connected with a condensate trap and the second rotameter. The latter are mounted in a cubicle recessed in one wall of the compartment. A small thermometer in the condensate trap determines the residual gas temperature.

Figure 1 is a schematic drawing of the instrument, showing the essential parts. Figure 2 is a photographic view, showing also the carriage on pneumatic-tired wheels. To avoid corrosion, ¼" O.D. stainless steel

* Benesh, Proceed. Am. Gas Association, Tech. Sect., 1921, p. 9-38.
† See A. G. A. Proceed., 1929, p. 1260-1282.
‡ See A. G. A. Proceed., 1931, p. 1174-1197.

tubing is used for conveying the gas and steam through the instrument. A dust filter is mounted at the sample inlet, consisting of a replaceable disc of ordinary filter paper supported vertically against a stainless steel wire screen, all contained in a chamber enlargement in contact with the boiling water bath. For control flexibility, the hot bath contains two immersion heaters, of 1000 and 750 watts, respectively. The pump used is of the rotary blower type (See Eimer and Amend Catalogue No. 30125 or other laboratory supply catalogues) and has a capacity of about 0.5 C.F.M. The rotameters are Fischer and Porter precision bore type, graduated 0-25 centimeters, equipped with aluminum floats and designed for a maximum flow of 0.5 cu.ft. gas/min. They are purchased uncalibrated for subsequent calibration as described later.

Since the rotameters are contained in recessed compartments, they are lighted for reading with six-volt flashlight bulbs operating from a bell-ringing transformer. The condensate trap is of low liquid capacity to avoid lag and error in the gas flow measurements which might result from the difference in specific gravity of the gas sampled on the run and on the blow. The steam vent on the constant temperature bath is located at the top of the hot gas rotameter tower to insure full temperature at this point which is farthest from the boiling water. Thermometers are mounted in the bath and the cubicles to indicate when all points are at full temperature. A bulb packed with glass wool is inserted in the line following the pump to trap out lubricant or other accumulations.

Method of Operation

Selection of the proper sampling point on the water gas set must fulfill the requirement that the sample be strictly representative of the gas plus undecomposed steam issuing from the generator. This means that no condensation of the undecomposed steam can be permitted to occur before the sampling point or in the sample lines, nor can any increase be allowed in this steam by evaporation of cooling sprays in set parts following the generator. In most installations, however, temperatures are well above the dew point at all points before the wash box and the effect of cooling sprays can be eliminated by shutting off these sprays temporarily while the test is being conducted. In many cases, a single sampling point can be used where up-run and down-run gases flow alternately

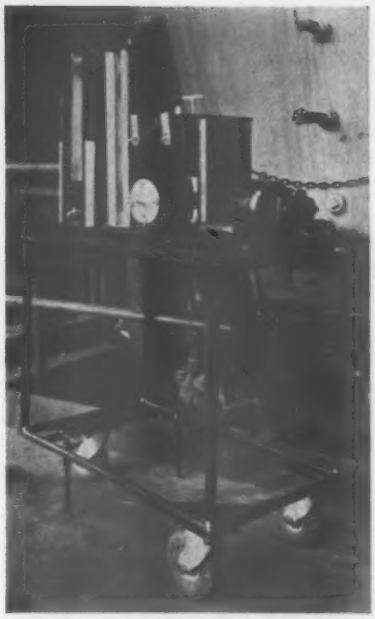


Figure 2—Steam decomposition meter and carriage

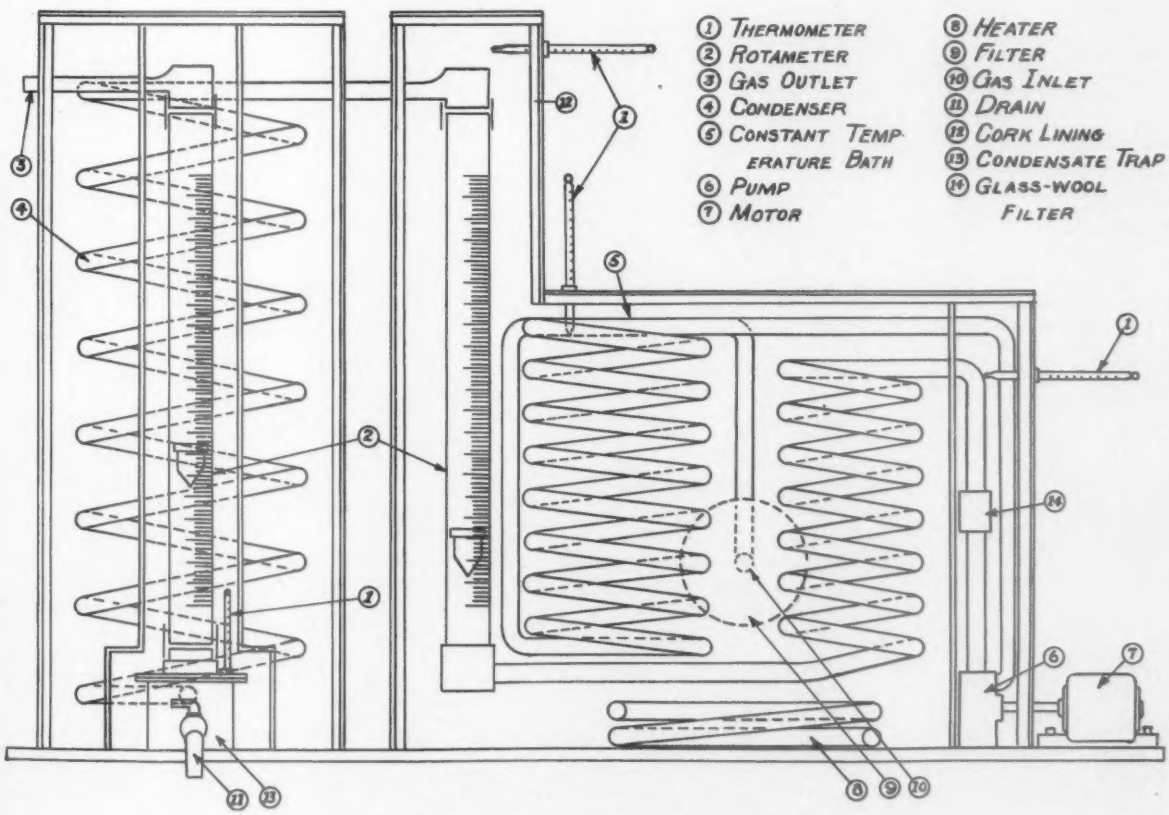


Figure 1—Schematic drawing of steam decomposition meter

through the same main following a large three-way valve. Otherwise, separate sample lines must extend from the up-run and down-run take-off pipes to converge in a small three-way valve located in the sampling system itself.

An insulated ¾" standard pipe is used to lead the sample to the meter location where a small representative flow is tapped off to the instrument through a short ⅜" O.D. tube. The remainder of the sample is vented to the outside atmosphere through an extension of the ¾" pipe. The larger pipe is first allowed to heat up, by continued flow of the steam-gas sample, to 100° C. or more, as indicated by a thermometer installed in a tee following the small ⅜" branch. Meanwhile the water in the constant temperature hot bath is heated to boiling and the condenser tank filled with cold water or water and ice. When the temperatures of the main sample pipe and of the meter hot bath are up to 100° C., flow is started through the meter by starting up the pump and is continued for a few cycles before taking rotameter readings. Blast gas from the blow, blow run, or purge portions of the cycle is allowed to flow through the meter in turn with the steam run gases but readings are confined to the latter, which can easily be distinguished from the blast gases by the difference in rotameter ranges caused by the change in specific gravity.

Beginning with the start of the steam run, parallel readings are taken on the two rotameters at intervals of five seconds. This portion of the operation has been found to require the services of two operators, one for observing the rotameters and the time intervals by stop-watch and the other for recording these observations. A little preliminary practice is required of the observer in noting and interpreting the readings because of the changes in the characteristics of the gases sampled at various points in the gas set cycle. For example, during the first few seconds of the run, the rotameters will read abnormally high because of the contamination of blast gas trapped in the set parts at the end of the blow or blow run. Again, momentary, erratic disturbances of the rotameter floats occur at the points of reversal from up-run to down-run and vice versa because of the accompanying fluctuations of pressure and undecomposed steam contents.

However, these three disturbed points are brief and transitory and the observer soon learns to avoid taking an interval reading at the particular moment they are in progress by anticipating or "waiting out" the point by two or three seconds. Check readings may be taken over as many cycles as desired. Since the basic principle involved is a hydrogen balance, the hydrogen content of the residual gas should be known and can be obtained by collection of this gas over one or more complete cycles in a rubber sample bag at the outlet of the meter with subsequent analysis. For most routine cases, this hydrogen figure does not vary greatly and an average figure can be assumed with small resulting error.

Calculation of Results

The basic equation is subject to various correction factors, some of which cancel out but all will be shown here for a complete understanding of the final calculation. The rotameters are calibrated by passing water gas of average composition through the instrument at various rates under the same general conditions as in actual operation and measuring the gas volumes passed in a given time by water displacement at

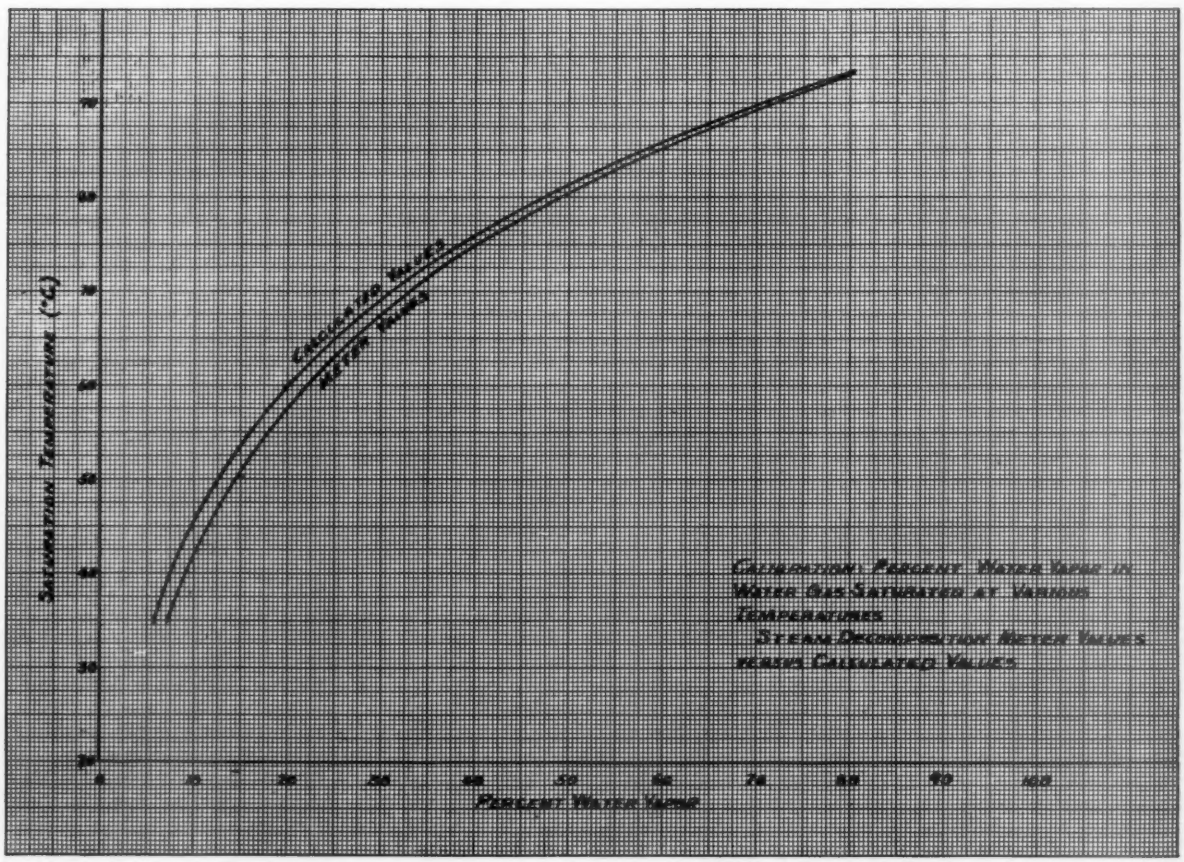

Saturation Temperature (°C.)
Percent Water Vapor
Calculated Values
Steam Decomposition Meter Values
Calibration: Percent Water Vapor in Water Gas Saturated at Various Temperatures
Steam Decomposition Meter Values versus Calculated Values

Figure 3—Calibration test results

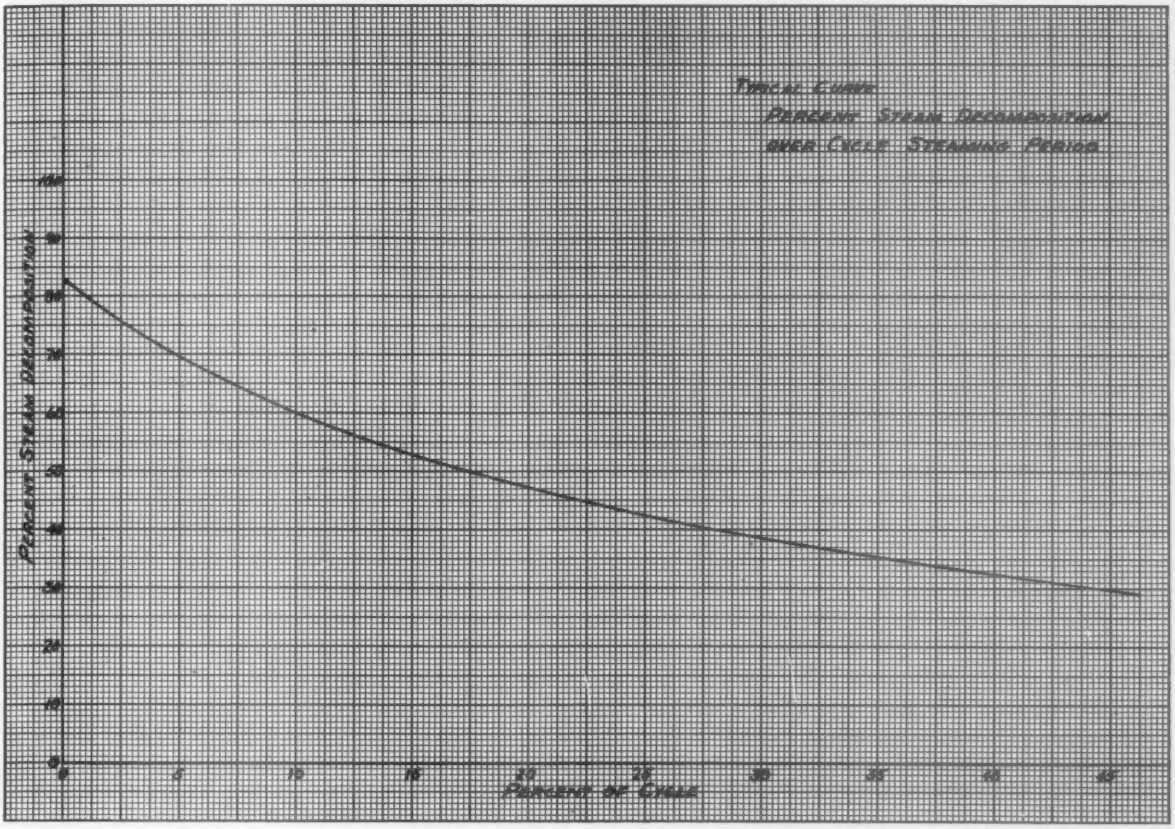


Figure 4—Typical steam decomposition curve over cycle steaming period

any convenient exit gas temperature and barometric pressure.

This means that the constant temperature bath is at 100° C., and the condenser filled with cooling water. These measured volume flow rates are corrected to 0°, 760 mm. Hg and the resulting values assigned as the rates of flow corresponding to the various centimeter points on each rotameter scale. Thus, curves can be drawn for the calibration but obviously these curves will hold for operation only at the temperature and pressure conditions of the calibration.

For application to the many combinations of temperature and pressure conditions encountered in general use, a further calculated correction is made from the observed conditions to the calibration conditions, after which the rates of flow corrected to 0°, 760 mm. Hg can then be read from the calibration curves. The effect of using straight water gas for the calibration instead of a steam-gas mixture can be corrected in the curves by multiplying by the following correction factor:

$$\sqrt{\frac{\text{Spec. Grav. of Straight Water Gas}}{\text{Spec. Grav. of Av. Steam-Gas Mix.}}}$$

The derivation of the various corrections applied to obtain the final equation used in practice for calculating the per cent steam decomposition is as follows:

Let: X represent gas or mixture of gas and steam under observed temperature and pressure conditions.

Y represent gas or mixture of gas and steam under temperature and pressure conditions of calibration of rotameters.

The correction for density difference between observed and calibration conditions would be as follows:

$$C_D = \sqrt{\frac{\text{Ab. Pres. Y}}{\text{Ab. Pres. X}} \cdot \frac{\text{Ab. Temp. X}}{\text{Ab. Temp. Y}}}$$

This correction factor, C_D, gives only the effect of density difference on the rotameters. Further corrections must be made for the differences in temperature and pressure from the calibration conditions.

$$\text{These are } C_{T+P} = \frac{\text{Ab. Pres. X}}{\text{Ab. Pres. Y}} \cdot \frac{\text{Ab. Temp. Y}}{\text{Ab. Temp. X}}$$

Multiplying the two equations, the total correction factor then becomes:

$$C = \sqrt{\frac{\text{Ab. Pres. X}}{\text{Ab. Pres. Y}} \cdot \frac{\text{Ab. Temp. Y}}{\text{Ab. Temp. X}}}$$

The application of corrections from observed conditions to calibration conditions becomes as follows for each rotameter:

(1) *High Temperature Rotameter*

No temperature correction is necessary since it will always be operated at 100° C., the calibration temperature. The pressure variation should be only for barometric pressure (barring tube plugs or variable pump performance), viz.:

$$C = \sqrt{\frac{\text{Observed Barom. Pres.}}{\text{Rotameter Calib. Barom. Pres.}}}$$

(2) *Residual Gas Rotameter*

Both temperature and pressure variation corrections are necessary from the observed conditions for this rotameter:

$$\sqrt{\frac{\text{Observed Barometric Pressure}}{\text{Rotameter Calibration Barom. Pressure}}} \cdot \frac{\text{Absolute Temperature Rotameter Calibration}}{\text{Absolute Temperature Observed}}$$

The complete basic equation becomes then:

% Steam Decomposition =

$$\frac{100\,(V_2)\,(H)\left(\frac{B_2-P}{B_2}\right)\left(\sqrt{\frac{273+T_1}{273+T_2}}\right)\left(\sqrt{\frac{B_2}{B_1}}\right)}{(V_1)\left(\sqrt{\frac{B_2}{B_1}}\right)-(V_2)\,(1-H)\left(\frac{B_2-P}{B_2}\right)\left(\sqrt{\frac{273+T_1}{273+T_2}}\right)\left(\sqrt{\frac{B_2}{B_1}}\right)}$$

Where: V_1 = Rate of flow of steam and gas sample, as read from rotameter calibration curves.
V_2 = Rate of flow of residual gas, as read from rotameter calibration curves.
B_1 = Rotameter calibration barometric pressure.
B_2 = Observed barometric pressure.
T_1 = Residual gas rotameter calibration temperatures, ° C.
T_2 = Observed residual gas temperature, ° C.
P = Vapor tension of water at T_2.
H = Volume concentration of hydrogen in residual gas, expressed as a decimal.

The Term $\sqrt{\frac{B_2}{B_1}}$ cancels out and the equation becomes:

% Steam Decomposition =

$$\frac{100\,(V_2)\,(H)\left(\frac{B_2-P}{B_2}\right)\left(\sqrt{\frac{273+T_1}{273+T_2}}\right)}{V_1-(V_2)\,(1-H)\left(\frac{B_2-P}{B_2}\right)\left(\sqrt{\frac{273+T_1}{273+T_2}}\right)}$$

After substitution of the proper values, this becomes a short calculation on the slide rule, as it may be noted that the portion of the denominator following the minus sign is simply the numerator multiplied by $\frac{1-H}{100\,H}$. This calculation may be applied to averages of the rotameter five-second readings to obtain an overall average per cent decomposition or it may be used for each five-second pair of readings to obtain a decomposition curve over the cycle.

Water gas made is calculated as follows:

Gas Made per Cycle =

$$\frac{\text{Lbs. Steam/Min.} \times \frac{\text{Seconds Steam Run}}{60} \times 20 \times \text{\% Steam Decomposition}}{\text{\% Hydrogen in Gas}}$$

For routine use, the necessary calculations can be reduced to a minimum by calibrating the rotameters with ice and water in the meter condenser and retaining these same conditions in all subsequent operation. Then water vapor tension correction becomes negligible and drops out and barometric pressure variation can be disregarded, thus sacrificing a small amount of accuracy. Assuming an average concentration of hydrogen in the water gas, say 52%, the equation becomes:

% Steam Decomposition =

$$\frac{100\,V_2\,H}{V_1-(V_2)\,(1-H)} = \frac{52\,V_2}{V_1-.48\,V_2}$$

Calibration Test of Meter on Known Steam-Gas Mixtures

The meter was tested on known steam-gas mixtures, produced by humidifying water gas at various temperatures. Per cent water vapor in the mixtures was determined in each case by observing the differences in flows through the rotameters before and after condensation (taking into account residual water vapor in the residual gas at the condenser temperature). Two such calibration tests showed an average error in per cent water vapor of 1.10% and 1.53% respectively. Results of one test are shown graphically in Figure 3.

The following sample calculation demonstrates the use of the meter in actual practice:

Data Observed

V_1 = .3967 = Average rate of flow of steam-gas sample in cu.ft. per minute, uncorrected from observed conditions to rotameter calibration conditions, for steaming portion of cycle.

V_2 = .2397 = Average rate of flow of residual gas in cu.ft. per min., corresponding to V_1.

B_2 = 746 mm. Hg.
T_1 = 301° C., absolute.
T_2 = 305° C., absolute.
P = 34 mm. Hg.
H = .517

% Steam Decomposition =

$$\frac{100\,(.2397)\,(.517)\left(\frac{746-34}{746}\right)}{.3967-(.2397)\,(.483)\left(\frac{712}{746}\right)}$$

$$\frac{\left(\sqrt{\frac{301}{305}}\right)}{\left(\sqrt{\frac{301}{305}}\right)} = \frac{11.71}{.3967-.1097} = 40.8\%$$

$$\text{Gas Make} = \frac{400 \times \frac{82.4}{60} \times 20 \times .408}{.517}$$

= 8,668 Cu.Ft. per Cycle

In determining gas made from steam decomposition determinations it must be borne in mind that generator steam meter accuracy affects the final result.

Figure 4 shows a typical steam decomposition curve plotted over the steaming period of one cycle. The sharp breaks in such a curve, which are usually shown for the changes from up-run to down-run and vice versa in other methods of determination, are not shown here because it is the belief of the present writers that the extent of the drop in steam decomposition for these short interruptions is not truly shown by most methods, including this one. The reason for this conclusion is that, for the few seconds of each break, sampling flows and pressures are severely affected by the abrupt change in direction of flow in the generator, thus affecting the pressures and flows in the meter and probably distorting the indicated response. It was thought better to ignore these breaks in taking the observations and to apply a correction factor to the resulting steam decomposition figure calculated from the volume of steam, corrected for temperature, trapped in the set parts and not passed through the firebed. For this purpose, the only additional data needed are net volumes and operating temperatures of the set parts involved.

The instrument described has proved useful to the authors in the study of gas set performance. Design improvement is desirable, however, particularly with a view to making operation automatic and thus increasing the value of the instrument as a routine control aid.

Acknowledgement

The writers wish to express their appreciation to C. E. Buckley, Supt. of Water Gas Division, and S. J. Bugbee, Supt. of Instrument Division, of the Belle Works for valuable suggestions and cooperation in the development of this instrument.

Annual Distribution Conference Program Tuned to National Developments

L. W. Tuttle

THE attention of distribution men throughout the gas industry is being focussed on the eighteenth annual Distribution Conference of the American Gas Association which will be held April 21-23 at the Hotel William Penn, Pittsburgh, Pa. Always the major event for men specializing in all phases of utility distribution work, this year's conference takes on special significance in view of the national defense program. Of added interest, is the fact that this meeting will be held jointly with the first annual conference of the newly-organized Committee on Motor Vehicle Operation, which is announced in an accompanying article.

Under the leadership of L. W. Tuttle, Public Service Co. of Northern Illinois, Oak Park, and C. S. Goldsmith, The Brooklyn Union Gas Co., who are chairman and vice-chairman respectively of the Distribution Committee, a comprehensive program tuned to national problems and events, has been laid out for the three-day conclave. It is anticipated that a record crowd will take part in the proceedings.

National Defense Keynote

An entire session has been set aside for the discussion of problems related to the national defense program and this subject is expected to set the keynote of the meetings. A feature of this session will be a joint luncheon with the Conference on Motor Vehicle Operation at which Major Thomas J. Strickler, president of the American Gas Association, will be one of the principal speakers. Following the luncheon-discussion, the two groups will hold separate meetings devoted to special phases of the preparedness program.

It is apparent that the maintenance of gas service in times of emergency and during a wartime economy is a national defense problem of the first magnitude and the gas industry is resolved to be prepared for any contingency. The subject of Radio Communication has been included in the tentative program.

Valuable reports on Meters and Metering, Cast Iron Pipe Standards, Appliance Servicing, Pipe Joints and Pipe Materials, Corrosion, and other vital subjects will be presented by leaders of committees studying these problems. In addition there will be papers by recognized authorities on "Industrial Metering," "When to Remove Locked Meters," "Remington-Rand System for Customers' Service," "Flamedicator," "Adjusting Appliances for Proper Input for Gas-Air Ratio," and "New Ideas and Methods Developed in Distribution Work During the Past Ten Years." Other subjects to be discussed include: Unaccounted-for Gas, Gas Conditioning Equipment, Regulation and Pressure Control, Distribution Design, and Deposits in Mains and Services.

One of the most popular events of the conference is expected to be the series of three round table luncheon conferences devoted to discussions of Appliance Servicing, Meters and Metering and Pipe. These meetings are informal and in the past have been extremely productive.

The final session will be held at Mellon Institute and special arrangements have been made for an inspection trip through the laboratories of this world-famed institution.

Complete details of the program will appear in the April issue of the A. G. A. MONTHLY.

Two-Day Conference To Study Operation of Public Utility Motor Vehicles

THE newly organized A. G. A. Committee on Operation of Public Utility Motor Vehicles has concluded arrangements for a 2-day meeting which will be held in conjunction with the Distribution Committee Conference at the William Penn Hotel, Pittsburgh, on April 21 and 22. The ground work for this conference was laid by Colonel O. A. Axelson of the Columbia Gas and Electric Corporation, during the Fall and early Winter months. Colonel Axelson has been called for military service and R. H. Clark, general superintendent of transportation, Consolidated Edison Company of New York, Inc., has taken over active work as chairman of the committee.

The 2-day conference at Pittsburgh will be devoted to two morning and afternoon sessions with subjects of general interest to public utility fleet operators, and particularly to the use of the motor vehicle in the gas industry.

It is significant that the initial conference should be closely allied with the Distribution Committee in its work. Many distribution superintendents are vitally concerned in transportation operations, since in many companies they play a dual role. While both committees will conduct independent meetings, subjects will be discussed that will interest the distribution man from the viewpoint of his operation of transportation. There is no question but that the result of this combined conference will be a better mutual understanding of each other's problems. A strong effort will be made to cultivate a more appreciative attitude between transportation men and the operating departments.

National defense problems will necessarily be one of the phases of study of the motor vehicle committee. The possibilities are unlimited for the application of the motor vehicle in time of national duress when all utilities would be affected, and when distribution systems might be subject to a terrific strain to maintain operations.

At a recent meeting of the chairmen of the various committees of the Technical Section, a few ideas were presented which indicated what might be done by transportations departments to prepare for difficult times. It was pointed out that the automobile industry has to all practical intent already brought out the 1942 model as announced in the form of 1941 cars. Thus it is reasonable to presume that production for defense will obtain priority which will delay all other orders.

It was also brought out that nearly every photograph showing devastated areas abroad depicted a crane and a dump truck moving debris. This type of equipment will undoubtedly be at a premium in a very short time, for use in the many military construction projects that will be undertaken. Production by manufacturers of auxiliary equipment, employed in conjunction with the operation of motor vehicles, will undoubtedly be diverted to other channels such as tanks, tractors, and specialized carriages for making artillery mobile. All of these factors will necessarily effect every car owner and our utilities will be no exception.

Many of the individual members of the

(Continued on page 119)

R. H. Clark (right), chairman of the Committee on Operation of Motor Vehicle Operation, discussing the motor vehicle program with A. A. Cullman, of New York, a member of the committee

Laboratories

N. T. Sellman, *Chairman, Managing Committee*
R. M. Conner, *Director*
W. H. Vogan, *Supervisor, Pacific Coast Branch*

Four New Sets of Gas Appliance Standards Adopted

At the last meeting of A. S. A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, 3 sets of tentative standards, and 1 set of recommended revisions were approved for presentation to the American Standards Association for adoption. These included requirements and recommended practice for house piping and appliance installation, approval requirements for portable gas baking and roasting ovens, and listing requirements for furnace temperature limit controls and fan controls, as well as revised requirements for semi-rigid tubing and fittings.

Although Requirements for House Piping and Appliance Installation have been available since 1928, it was felt that in view of their wide acceptance throughout the United States and Canada by utilities and various federal, state, and municipal agencies, their significance would be greatly enhanced if adopted as American Standard. After considerable study, these specifications were brought up to date with modern developments and practices. Additions were also made to fully correlate them with applicable features in standards covering installation, maintenance, and use of piping and fittings for city gas sponsored by the National Fire Protection Association. It is believed that this will bring about even greater cooperation by insurance and fire protection interests with Laboratories' activities.

Oven Requirements

Tentative Requirements for Portable Gas Baking and Roasting Ovens were prepared as a result of increasing demands for Laboratories' approval for this type of equipment. The scope of these requirements applies to ovens which are manufactured, shipped, and are movable from place to place as a unit, including cabinet type ovens and sectional ovens, both of which have stationary decks. Part I specifies basic construction requirements for such equipment for use with all gases. Parts II, III, and IV cover performance requirements for use with city gases, liquefied petroleum, and butane-air gases, respectively. All include details designed to insure the same high standard of safety, durability, and efficiency as have been obtained with other tested and approved gas appliances.

In view of the growing demands for automatic controls on modern central house-heating gas appliances, it was decided some time ago to prepare listing requirements for additional types of such equipment. Availability of such devices listed in the Directory of Approved Gas Appliances and Listed Accessories will enable manufacturers to make a selection most suited for their particular needs. Listing Requirements for Furnace Temperature Limit Controls and Fan Controls are the first of this series of proposed standards prepared. They include suitable tests governing dial calibrations, sensitivity under extreme conditions of usage, as well as continued operation tests to insure satisfactory performance over long periods of service.

Revised American Standard Listing Requirements for Semi-Rigid Tubing and Fittings incorporate a number of major changes. Parts I and II cover construction and performance specifications, respectively, for such parts. Parts III and IV have been added to cover individually tubing and fittings for use in connecting gas appliances to house piping. In addition, current requirements have been strengthened to simulate the most severe use of these accessories in service.

These 4 sets of standards will become effective January 1, 1942. Any manufacturers so desiring may, however, submit their products for test in compliance in advance of that date. Under a recent ruling of the Laboratories Managing Committee, Certificates of Approval or Listing for equipment complying with requirements which are not yet in effect will be dated as of the effective date of such standards.

A. G. A. Research Started on Central Heating Gas Appliances

Early in January a new program of research on central heating gas appliances was started at the American Gas Association's Testing Laboratories in Cleveland. This program should be very interesting and worthwhile to both manufacturers of such appliances and gas companies. Supervision and sponsorship for this new activity rest with the Association's Committee on Domestic Gas Research headed by F. J. Rutledge. To assist this group a Technical Advisory Committee of Manufacturers on Central Gas Space Heating Research, of which J. W. Farren is chairman, has been appointed by the Association of Gas Appliance and Equipment Manufacturers.

Other research projects under the supervision of the Domestic Gas Research Committee already under way at the Laboratories include fundamental research on domestic gas ranges, atmospheric gas burners, and domestic gas water heaters.

The purpose of this new program is the same as for older projects, namely to establish facts on domestic utilization of gas in central heating appliances, and to study further the effect of appliance and burner design on safe and efficient consumption of city gas. It is not to be considered as a commercial venture in any way, but rather a long-range, fact-finding endeavor designed to establish basic information on factors influencing appliance performance.

Some of the general subjects to be included in this study are a determination of the fundamentals of aeration of burners and flames and venting of flue gases through heating elements and flues, efficiencies under service conditions, heating time rates, heat transfer problems as they relate directly to central heating equipment, effectiveness of joints used in heating elements, and the elimination insofar as possible of furnace noise. Because of the perplexing problems which have arisen in connection with this latter item and scarcity of technical facts on the subject, it has been decided to undertake this study first. Particular attention will be given to an investigation of the phenomena of singing flames and musical sounds produced by pipe organs as information on these subjects indicates that they constitute the closest approach to noises generated in gas furnaces. The Laboratories some years ago completed a comprehensive study of the elimination of noise in industrial furnaces which was set forth in two bulletins, Reports Nos. 692 and 724.

One of the first major problems in Laboratory experimental work will be the procurement of instruments which will permit analysis of noise wave lengths, frequencies, wave form and magnitude, in order that the source of energy which produces the noise may be located. Such instruments are available, but whether they will be adaptable to use on this problem, and particularly un-

der higher temperatures than most sound level meters are designed for, remains to be determined. Thereafter, if the equipment contemplated proves successful, it should be possible to discover the fundamentals which will permit design for quiet operation.

A. G. A. Employees Are in the Army Now

ON January 25, 1941, B. A. McCandless of the American Gas Association Testing Laboratories, Cleveland, Ohio, resigned to report for service in the U. S. Army. Mr. McCandless, a First Lieutenant, is now stationed with the 35th Artillery at Camp Blanding, Florida.

Mr. McCandless is the third engineer to leave the Laboratories for military service within the last six months. Lt. J. B. Heinicke has been stationed at the Naval Academy at Annapolis, Maryland, as instructor in chemistry since September, 1940. Pvt. C. B. McIntosh has been stationed at Fort Custer, Michigan, since December. Mr. Heinicke was appointed for the duration of the emergency, while Mr. McIntosh volunteered for a period of one year.

The only A. G. A. Headquarters' employee so far called is Thomas Grimes who was employed in the mailing department. He left New York on October 16, 1940, with the 27th Division to become a part of the 54th Brigade located at Ft. McClellan, Anniston, Ala., and has just recently been promoted to Corporal. Corporal Grimes was associated with the A. G. A. for four years previously and will be in the Army for at least one year.

Industrial Gas Publicity

(Continued from page 109)

invited to contribute. Drop us a line when you have a thought for the rest of the industrial and commercial gas sales world to chew on. In "Going Ahead" you can ask: "Who's got a textile dry-box conversion job. I have the sales lead, but no case history record to sell with." You might announce: "John Doe of the Heaven-sent Gas Company finds that sales letters with imprinted names and salutations produce 50% more nibbles than those simply addressed 'Dear Mr. Plant Manager.'" You can get help, and you can give help, through "Going Ahead with Industrial Gas."

Indeed, we believe that *your* part in our A. G. A. Industrial and Commercial Publicity Program is considerable and important—for we believe that it takes more than one side to make a marriage, a fight, or a publicity program. We know you can cash in on our program—we know you can help us to extend, enlarge and improve it. Please do.

Motor Vehicle Conference

(Continued from page 117)

Transportation Committee have served on the Public Utility Subcommittee of the Transportation and Maintenance Committee in the Society of Automotive Engineers. It is expected and hoped that many of the S. A. E. Committee members interested in the public utilities will attend this conference since so much of the research of the S. A. E. will be of value to the A. G. A. committee. Such cooperation will eliminate much duplication of effort in the future. It is also hoped that those members of the Edison Electric Institute who share membership with the A. G. A. committee members on the S. A. E. committee, will take advantage of the opportunity for this general transportation caucus in the interest of public utilities.

The program as now constructed deals with very general subjects. This must necessarily be the case until such time as the committee can determine what subjects the members wish to study. This will probably be brought out in the closed public utility meeting which will be held on Tuesday afternoon, April 22, under the chairmanship of Jean Y. Ray of the Virginia Electric and Power Company.

The program for the 2-day session will be published in detail in the April issue of the MONTHLY.

Human Elements of Utilities

(Continued from page 104)

industry which have thought of improvements. First, in making gas only bituminous coal was used, then in 1872 a process for using oil and coke as the raw materials was developed to make what is known as water gas. You will be interested to recall that U. G. I. was organized in 1882 and played an active part in establishing and perfecting this process, its first operating company being in Cape May. In 1929 the U. G. I. engineers invented a method of using cheaper grades of oil. Another step has been the learning how to change refinery oil gas into a satisfactory gas for commercial use. Through these improvements the production costs have been reduced and have helped in rate reductions.

In connection with distribution, many people don't realize that so much of the gas plant is underground piping. This is over 50% of the value of the whole gas works. Recent improvements in methods include driving the service pipe through from the cellar out to the main in the street instead of digging a trench. A man holds an air hammer against the end of the pipe and, sure enough, it pushes along until it shows up out in the trench where the main passes down the street. In cases where digging is done for larger pipes, modern machine diggers and refillers are used.

I recently heard the president of the American Gas Association say that sales and rates are the present problem in the gas industry. Here in Philadelphia we have been well aware of this fact. During the last thirteen years the company has recommended to the Philadelphia Gas Commission eleven reductions in rates, which are saving the customers $3,500,000 each year and have greatly helped in the retaining of old business and the getting of new. In 1940, sales increased 5½%.

In conclusion—the utilites operate to render service. They are not just great, soulless corporations. They are on the job twenty-four hours a day, fair weather or foul, and the humans on their payrolls are eager to give a 100% service at the least possible cost.

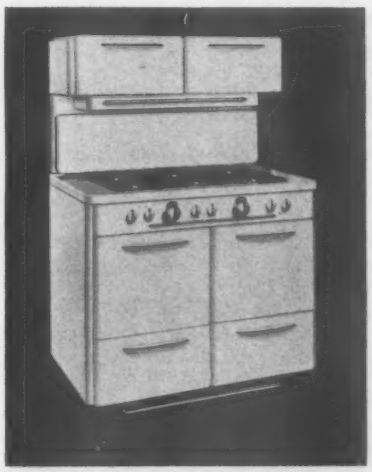
Frank H. Golding Dies

FRANK HENRY GOLDING, chairman of the board of trustees of the New England Gas and Electric Association and vice-president of the Harvard Trust Company of Cambridge, Mass., died Feb. 3 after a brief illness.

Mr. Golding was president of the New England Gas and Electric Association from 1927 to 1938 after which he became chairman of the board. Prior to that time, he was treasurer and general manager of the Cambridge Electric Light Company from 1923 to 1927. He was a member of the American Gas Association from 1928 to 1939.

He is survived by his wife and one son, Charles Paget Golding, sales manager of the New Bedford Gas and Edison Light Company.

New Model Gas Range



New type of elevated warming compartment gas range recently introduced by Standard Gas Equipment Corporation which has attracted favorable attention. A novel feature is the installation of two lights concealed under the compartment which brilliantly illuminate the top. The compartment is quite roomy, measuring 17" wide. 11" deep by 8⅜" high.

Gas Man on Restaurant Exhibitor's Committee

T. J. Gallagher

APPOINTMENT has just been made of T. J. Gallagher, manager, commercial sales department, The Peoples Gas Light and Coke Company, Chicago, to the Exhibitor's Committee of the National Restaurant Association—the group charged with the responsibility of planning all aspects of the 1941 National Restaurant Exposition to be held October 6-10 in Chicago in connection with the annual convention of the National Restaurant Association.

Mr. Gallagher's appointment is recognition of the significant role played each year by the gas industry at this most important national meeting of restaurant folk. Through its Industrial and Commercial Gas Section, the American Gas Association customarily erects a display on the Exposition floor—as do The Peoples Gas Light and Coke Company, and at least a score of manufacturers of gas-fired quantity cookery equipment. Some 40,000 leading restaurateurs from all over the country regularly attend the event.

Houston Dealers Top Gas Sales Quotas

ANOTHER year of sales achievement has been written into the record of the march of progress of gas appliance dealers in Houston Natural Gas System, and 1940 proved a better sales year in most respects than 1939. Every quota except one was surpassed, and 26 of each 100 homes served bought one of the three major gas appliances—a range, a water heater, or a refrigerator—as compared with 24 of each 100 homes served purchasing one of the major gas appliances in 1939.

The 1940 sales results for the Houston Natural Gas System (outside Houston) is as follows:

	1940 Sales	*% of Quota Sold*
Ranges	2,433	130.04
Water Heaters	2,460	146.60
Refrigerators	593	79.28
Gas Heaters	3,618	128.89
Central Heating or Floor Furnaces	204	109.68
Service Lines	2,387	159.24

The six-year period, 1935-1940, has produced a total of $3,058,450 in appliance sales, based on the conservative average of $100 for a gas range, $60 for a water heater, $200 for a gas refrigerator, $15 for smaller gas heating equipment, and $150 for central or floor furnace installation. In this period, 12,396 gas ranges, 10,217 water heaters, 4,355 refrigerators, 18,072 gas heaters, and 425 central or floor furnaces have been sold in Houston Natural Gas System (outside Houston), with every sale being made by a cooperating gas appliance dealer.

Wins Life-Saving Award

FOR rendering exceptional service beyond the call of duty, Michael J. Welsh, employee of the Consolidated Edison Company of New York, Inc., was recently awarded the coveted McCarter Medal for life saving. The award was made by the American Gas Association for the successful application of the Schafer prone pressure method of resuscitation. At the same time, McCarter certificates of assistance were awarded to Joseph Eraczek, Harold Hutton, Harry D. Parlapiano, and John B. Gregory, all Consolidated Edison employees.

Presentation of the awards was made on January 21 by W. H. Warner.

Indianapolis Progress

IN a special feature article in the company's house organ, *The Gas Flame*, the Citizens Gas and Coke Utility, Indianapolis, points with pride to its progress in the past five years. Included in the statistics which are illustrated graphically are the following gains:

Total gas consumption increased 46 per cent in 1940 over 1935. This gain included an increase of 33 per cent in domestic and house heating gas consumption, a 110 per cent rise in industrial gas consumption, and a 37 per cent jump in commercial gas use.

Main extensions totaled 247 miles, an increase of 28.2 per cent.

Gas meters were up 20.2 per cent in the five-year period.

The article calls attention to the rate schedule now in operation which is substantially lower than in 1935. Benefits to employees, plant expansion and other factors are also noted.

Personnel Service

SERVICES OFFERED

Heating **Sales Engineer,** (48) exceptionally well rounded experience in appliance sales. 20 years industrial, housheating and other appliance experience with natural and manufactured gas. Experience covers supervision, training of men as well as other phases of selling and installing equipment. Employed but desire position with more responsibilities and possibilities. Graduate Engineer. **1402.**

Water Heater Sales Up 6% a Year. In four years, under my direction, a gas utility with five to six thousand meters increased its automatic **water heater saturation** from 10% to 34% on a $1.30 water heating rate. 16 years experience in building gas loads and gross and net revenues. **1405.**

Industrial gas **sales** and **utilization:** Specialist, with over 23 years experience, covering manufactured and natural gas, and ranging from open hearths to bakery ovens. Chemical engineer with masters degree. Diverse experience includes market surveys to the selection of equipment for applying gas to the broadest range of uses. **1406.**

Representation for a good **quality merchandise** desired by man who has had a number of years experience in all branches of the gas business. Prefer representation where both salary and commission will be paid and where appointments can be made in advance. Can furnish A-1 references. **1407.**

Fourteen years' experience as manager of manufactured gas properties desires position as **manager** or **superintendent** in gas utility field. Wide experience in sales promotion and public relations work. Thoroughly familiar with all phases of coal and water gas operation. Available now. **1408.**

Experienced **Salesman,** 35, engineering education, proven sales record, executive ability. Experienced supervising sales, service and installation of househeating hotel and restaurant, commercial and industrial uses of gas. At present employed in natural gas city of 65,000. Interested in sales position with gas company or equipment manufacturer. **1409.**

Distribution Superintendent or **Engineer** (36) extensive experience with leading natural and manufactured gas properties on construction, operation and educational activities; B. S. and M. S. degrees in engineering; excellent references; employed but desire change with more possibilities. **1410.**

SERVICES OFFERED

Customer Accounting Specialist—twenty years' experience in the utility field—on operating properties and in service organizations. Five years' specialized experience on billing installations, meter reading re-routing, service application routine and collection procedure. Available for either permanent position or special assignments. **1411.**

Service man, (32) now employed by large utility corporation in the house heating and water heating gas appliance division, desires position with manufacturer as field contact man or in line with type of work. Also have knowledge of electrical thermostatic controls and all types of house heating systems. **1412.**

Open for **sales** proposition; good contacts utilities and distributors. Record good. Broad sales experience, range field. Present employment; sales manager for manufacturer with national distribution. Would welcome communications relative to a new connection as a change is desired. **1413.**

Engineer—12 years' experience natural gas, carbon black, natural gasoline; 6 years construction, operation, etc., diversified industries—desires permanent connection. U. S. citizen, (43) widower, 2 children. Location: Anywhere in U. S. A. **1414.**

POSITIONS OPEN

Sales Agents to represent well-known manufacturer of gas space heating equipment. Territories open in Nebraska, Minnesota, Iowa, Wisconsin, Illinois, Indiana, Missouri, New York State, and Western Pennsylvania. Exclusive territory protection, no objections to man selected handling non-competitive line, remuneration straight commission. State detailed qualifications in application. **0355.**

Manufacturer requires the services of a **graduate engineer** who has had experience with research and development of cooking and heating appliances. His experience should cover both gas and oil burner designs and he should be familiar with combustion problems. His salary would be commensurate with past experience. **0359.**

Man capable of **taking charge** of small natural gas property, 250 meters maximum. Necessary to do all work in connection with distribution and service lines, setting meters and regulators, care of gas wells, meter reading and collections, including billing to consumers. State age, experience, and salary expected. **0360.**

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